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Research Paper

Strategic Competitive Advantage: Balanced Scorecard Environment Governance Framework for Doon Valley in Uttarakhand

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ABSTRACT:- *Doon Valley, an eco-sensitive zone since 1989, has witnessed conflicting demands, especially after Uttarakhand's formation in 2000, by increasing urbanization, industrial development and man-animal conflicts that got hill migration accentuated post Uttarakhand's disaster in 2013. The international context of Climate Change, the fragility of Himalayas and increased pressures on land use have led to evolving Environment Governance Framework involving all stakeholders. Environmental Governance is influenced by transparency, processes of execution, accountability and its quality and EG Framework can lead a better understanding of sustainable development. The data collection and methodology consist of qualitative and quantitative data through primary& secondary sources. Feedback from Polluters, Regulators, Line Departments, Civil Society Organizations and Press led to the recommendation of the Balanced Scorecard framework for Environmental Governance along with importance to the participation mechanism of stakeholders, the process of execution, public transparency, linkages between accountability architecture and quality of environmental governance. The Balanced Scorecard Framework, providing a sort of sync between the elements of nature aligning the various stakeholders towards transformative sustainable development in Doon Valley can be a path breaking to provide strategic competitive advantage within the eco-sensitive notified area and beyond to Uttarakhand Himalayas.*

Keywords:- *Accountability Architecture, Balanced Scorecard, Doon Valley, Environment Governance, Stakeholder Participation.*

I. INTRODUCTION

Post Uttarakhand formation in 2000, the aspirations of people of Uttarakhand and their fulfilment outcome assessment by all concerned have stressed the need for such a study on the Environmental Governance framework. This is in context of increasing urbanization, especially in Doon Valley by both local & national migrants, tourist pressure, overburdened public spaces & common property resources and decreased budgetary support but multiple channels of national and international projects for implementation. Increased Man-animal conflict in Doon Valley and outside in Uttarakhand has added another pressing dimension to strike a harmonious balance between biodiversity conservation and people's livelihood necessities.

The concept of environmental governance is primarily about how to view governance from environmental perspective or incorporating environmental goals, such as conservation with sustainable development. Shaping environmental processes and outcomes by the use of institutionalized power can be summarized as environmental governance (Delmas and Young 2009).

Environmental Governance framework study is relevant for the important and critical stakeholders interested in the region of Uttarakhand Himalayas with particular reference to Doon Valley for better environmental governance and sustainable development, especially in the aftermath of Uttarakhand disaster of June 2013 and contextual dynamic environment of climate change across the globe, National Climate Change Action Plan, fragility of Uttarakhand Himalayas and needs & genuine aspirations of the local population.

Stockholm Conference on Human Environment 1972 triggered the modern civilization's perceptions, policies, Acts and Conventions pertinent to Environmental Governance. Related world studies, Himalayan and Doon Valley related local studies provide a historical context towards developing an Environmental Governance & an Integrated Environment Management Framework.Environmental governance refers to the processes of

decision-making involved in the control and management of the environment and natural resources; also the manner in which decisions are made involving principles such as inclusivity, representivity, accountability, efficiency and effectiveness, as well as social equity and justice, form the foundation of good governance (Fakier, Stephens and Tholin 2005).

In the context of the above, first knowing the elements of the Environmental Governance framework and thereafter its healthy functioning is critically important, especially in a country like India with high growth potential and within an eco-sensitive zone like Doon Valley since 1989, for sustainability. One particular issue this study had as a context was a lack of strong connective & enforceable systems amongst important and critical stakeholders that include Regulator, Polluter, Performing Departments / Organizations and Public / Civil Society Organizations. Unclear accountability mechanisms and further lacklustre implementation thereof for all these stakeholders was the single most important element in the environmental governance delivery.

Polluter & Regulator owe greater responsibility as the one symbolizing the source of pollution and another synonymous with lawful control mechanisms. Performing organizations / Departments symbolize delivery vehicles at operational level. All these three stakeholders are also driven by the pressure of Public and Civil Society Organizations while performing their legally enshrined duties. State Govt and Govt of India as per their distribution of powers as enshrined in Constitution of India's State List, Central List & Concurrent List are legally bound to discharge their duties. Judiciary, along with National Green Tribunal act as watchdog through various writs, PILs etc. on Environmental Governance.

Despite having sustainability agenda on radar before everyone through Climate Change debate, Inernational Protocols and having a lawful governance system in place, the continued problems before all critical stakeholders indicated a continued distance of governance from sustainability if not divergence, acted as a leading context of the present study.Environmental Governance and related issues in India have both an ecological and a human dimension (Guha 2014) and better Environmental Governance could be a delivery vehicle for bringing out 29.5 % Indian population (about 37.5 crore) as estimated by the Rangrajan Committee out of poverty in a sustainable manner having adequate livelihood means.

Environmental Governance is influenced by level of transparency. In recent years the Supreme Court of India delivered judgements on 2G (Centre for Public Interest Litigation and others versus Union of India and others 2010 & 2011) and Coal mining (Manohar Lal Sharma v.The Principle Secretary & Ors. 2012, 2012, 2012 & 2013) which relate to the exploitation of natural resources and state of Environmental Governance. India ranked 94th in 2012 & 2013 on global corruption perception index out of 177 countries as released by Transparency International. CPI was first launched in 1995 and has been widely credited with putting the issue of corruption on the International & National policy agenda (Transparency International 2013).

EG Framework helps in better understanding of the factors for sustainable development and also leading to amelioration of public policies and individual & collective actions (Hrabrin Bachev, 2008). Beyond regulatory compliance, stakeholders, including governments, regulators, competitors, customers, industry associations, environmental interest groups impose direct & indirect pressures and thereby institutional framework & stakeholders influence environmental management practices (Magali Delmas & Michael W. Toffel, 2001). Networked multi-level governance is also helpful in mapping new world order (Cesar de Prado, 2007).

Even voluntary Corporate Social Responsibility (CSR) standards do influence environmental accountability (Prof KV Bhanu Murthy, 2007). Social Responsibility with a set of indicators of governance like accountability, effectiveness, corruption, policies, participation, partnerships; for social capital like networks, trust and fair economy indicators like employment, innovation, well being etc., has also acted as a driver for furthering local sustainable development (Elena Costantino, Maria Paola Marchello, Cecilia Mezzano, 2010).

Analysis and forms of multi-level environmental governance like global coalition of cities in the context of climate change is also emerging as a tool for remedial action (Bulkeley, H., 2013). National & global initiatives are linked and complemented by regional systems for environmental governance (Koh Kheng Lian and Nicholas A. Robinson, 2002).

II. RESEARCH PROBLEM / PURPOSE

The Study tested the efficacy of Environmental Governance and overall success of Sustainable Development in Doon Valley through the following hypotheses:

i. Legal framework of Environmental Governance is in place and process of execution thereof affects the quality of Environmental Governance
ii. Accountability and Governance Architecture of the Environmental Governance &the Integrated Environmental Management Framework is in place and its quality determines the overall success of Sustainable Development, Environmental Governance & Integrated Environmental Management

The Research study for Framework of Environmental Governance & Integrated Environment Management focused on following aims and objectives while testing above hypotheses:

i. Identification of important and critical stakeholders in the region of Uttarakhand Himalayas with particular reference to Doon Valley.
ii. 360 degree perspective on the regional sustainable development.
iii. Finalization of Essential & significant parameters and indicators of the framework
iv. Integrated Framework Systems for Environmental Governance / Sustainable Development
v. Accountability and Governance Architecture of the Environmental Governance& Integrated Environment Management Framework

The research study explored answers to following three research questions:

i. Whether the legal framework and accountability & governance architecture of the Environmental Governance is in place?
ii. Does its process of execution affect the quality of Environmental Governance?
iii. Does the quality of Accountability & Governance Architecture of Environmental Governance & IEM Framework determine its overall success and that of Sustainable Development?

III. THE METHODOLOGY

The first part of the methodology used was to review the literature on environmental governance and integrated environment management over the last four decades.

The second part dealt with data collection and sampling; Sample Design having incorporated Stratified Systematic Sampling while using Multi Criteria Decision Technique has been used for deciding priority of study points in order to make the data collection methodology pragmatic and manageable. The multi-criteria decision technique has been used in the integrated assessment of climate change as well(Bell, M.L., B.F. Hobbs and H. Ellis. 2003).

The dataset collection & methodology for Environmental Governance Framework consists of both quantitative and qualitative; and included the following:

i. International and National Conventions, Treaties, Laws, and State Laws related to Environmental Governance
ii. Laws of Environmental Governance applicable to Uttarakhand and Doon Valley
iii. Critical Stakeholders' data, including that of Central & State Govt, Central Pollution Control Board, State Pollution Control Board, Public & Private sector, Environment & Forest Dept, Urban Development Dept, Industries Dept, Mussoorie & Dehradun Development Authority, State Environment Impact Assessment Authority, Supreme Court Monitoring Committee, CII Uttarakhand Chapter and Civil Society Organizations etc.
iv. Primary and Secondary Data including Local Geographical & Census data, Master Plan Reports, Management Plans and Working Plans; National & International Strategy Documents, Planning Commission Reports, IUCN Report, Case Studies and interviews etc.
v. Sample Design incorporates one Case Study on Uttarakhand Environmental Protection &the Pollution Control Board (UEPPCB); 5 Interviews and 25 Questionnaires representing Civil Society Organizations, State Govt officials, Press, Municipal Bodies, Hospitals, through Stratified systematic sampling while using Multi Criteria Decision Technique for deciding priority of study points in order to make the data collection methodology pragmatic & manageable.

3.1 Scope & limitations

The Study focused on the broad framework for Environmental Governance and associated parameters through consultations with related stakeholders and their available data, primary and secondary data and related laws. Constraint and limitation have been that of time and availability of updated data on concerned organization's web site.The Study has significance in future implementation through better environmental governance by sensitization of key stakeholders, the linkages of the process of execution to quality of environmental governance and accountability architecture.

IV. RESULTS PATH ON WAY TO DISCUSSION

The Study addressed the identified research questions and testing of hypothesis through a subset of 12 questions to the prioritized study points of assessed key stakeholders (Polluters, Regulators, Line Departments, Civil Society Organizations and Press) both vide primary and secondary data. The important portion of the results and main findings include following:

4.1 Legal Framework Of Environmental Governance

The primary data of assessed key stakeholders indicate that 92% of them feel that the legal framework of Environmental Governance is in place. While 100 % Polluters, Regulators, Line Departments and Press felt that the legal framework is in place while the Civil Society Organizations felt it to the tune of 60%, giving an average figure of 92% in the primary data as shown in Fig 1.

The secondary data through a 2014 report by Centre of Science and Environment titled "Strengthen institutions, reform laws and streamline processes: Agenda for improving environmental governance in India" indicates the entire regulatory framework in India is effectively geared towards giving multiple clearances, consents and authorizations with poor monitoring and enforcements along with "deemed consent" becoming a norm in many States(CSE, 2014). One of the State Regulator (Uttarakhand Environment Protection and Pollution Control Board) in its Annual Report 2013-14, indicates that the Board has adopted the online consent and authorization system (UEPPCB, 2014). However, under Municipal Solid Waste (Management & Handling) Rules 2000, out of total 68 local bodies in Uttarakhand, no local body applied for authorization for development of landfill site and waste processing facilities and the Board is not able to send its MSW annual report on time to the Central Pollution Control Board as mandated in MSW Rule 8(1).

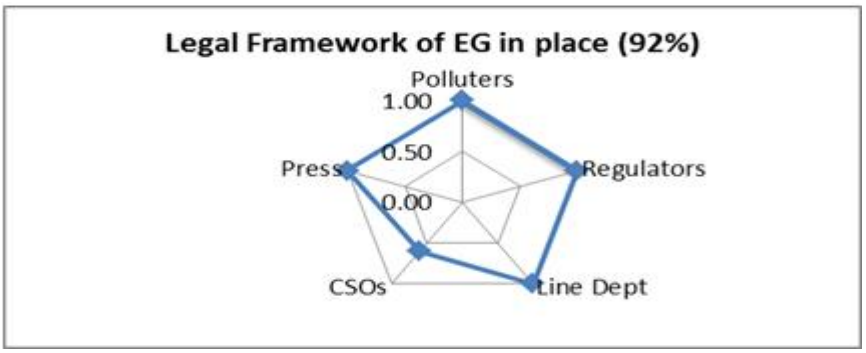

Figure 1.

Given the crisis within the executive and the legislature in discharging their Constitutional duties, the Supreme Court's innovative methods, including PIL, expansion of the fundamental right to life in environment, and Supreme Court Monitoring Committees have attempted to arrest the dysfunctional trend of other organs and enable the effective enforcement of environmental laws since 1980s beginning with the Doon Valley limestone quarrying case of 1983.

4.2 Accountability And Governance Architecture

The primary data of assessed key stakeholders indicate that on average 10% of them feel that the accountability and governance architecture of environmental governance is in place. While 20 % Polluters and Regulators felt that the accountability architecture is in place, while Line Departments, Press and the Civil Society Organizations felt the architecture to be almost absent, giving an average figure of 10% in the primary data as shown in Fig 2.

The secondary data through the 2014 CSE Report indicates that the regulators –Expert Appraisal Committee, State EACs or SEIAA (State Environment Impact Assessment Authority) are not accountable to anyone in the context of environmental clearances under EIA Notification 2006 and nearly 100 per cent of the project are given environmental clearance through a lot of paperwork.

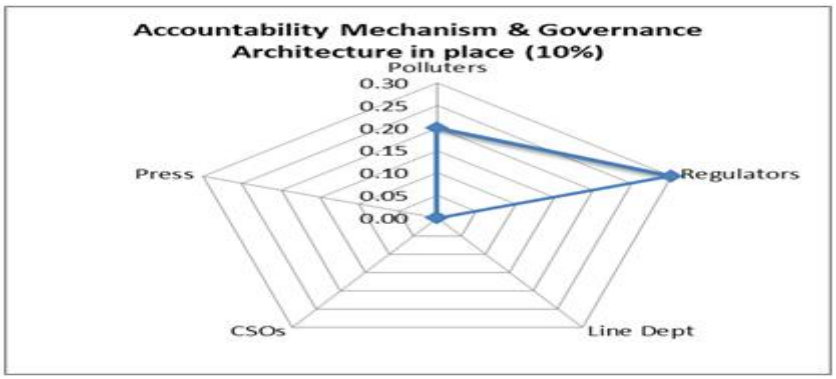

Figure 2.

4.3 Process Of Execution Of Environment Governance Framework

The study captured the process of execution through six questions to the key stakeholders during interview, focus group discussion and the case study in the primary data collection and also through exploring the available secondary data. The questions pertained to mechanism for participation of stakeholders at the prioritized study point level; availability of adequate funding and manpower at respective stakeholder level; system for access to information / public transparency; internal system and processes for delivering environmental services; scope of community supported execution; and external processes of decision making / execution that are primarily external to the stakeholder in question.

4.4 Mechanism for Participation of Stakeholders

On an average 80% of the prioritized study points indicated that they have a mechanism for participation of their stakeholders. While the Regulators, Civil Society Organizations and the Press indicated 100 % mechanism in place; the Line Department's response is 60% and Polluters response is 40%, leading to average figure of 80% as shown in Fig 3.

Secondary data from Uttarakhand Environment Protection and Pollution Control Board indicate the mechanism of public hearings and other stakeholder level interactions on biomedical waste with Indian Medical Association, and on solid waste management with municipal bodies. The 2014 CSE report "Agenda for improving environmental governance in India," says that the process of public hearings / consultations has been systematically diluted and routinely manipulated excluding people from the process, over the past few years in a national context and prescribes the use of social media and information disclosure to increase public participation.

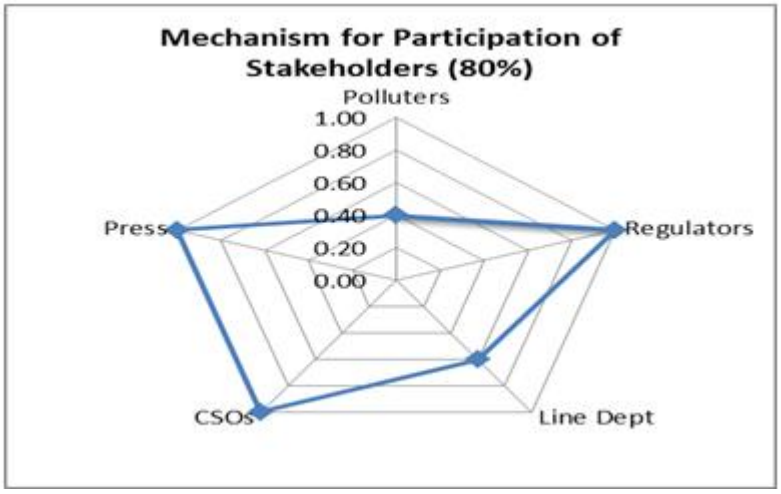

Figure 3.

Principle 10 of the Rio Declaration on Environment and Development reflects this notion: Environmental issues are best handled with the participation of all concerned citizens, at the relevant level(UNCED, 1992). Agenda 21, the plan of action adopted at the Rio Conference, calls it "one of the fundamental prerequisites for the achievement of sustainable development."

4.5 Availability of adequate Funding and Manpower at stakeholder level

The primary data of assessed key stakeholders indicate that on average 48% have the adequate funding. While Civil Society Organizations and Press indicated 80 %, Regulators 60% and Polluters 20% of adequate funds available to them, none of the line departments indicated adequate funds with them for environmental governance as shown in Fig 4.

Similarly, on an average 32% of the study points felt they have adequate manpower with them. While Press indicated 80% availability, CSOs 40%, Regulators and Polluters 20 % each but none of the line departments indicated adequate manpower with them for environmental governance.

The secondary data with the key line department Forests indicate rapid declining trend of funds through budgetary stream over last 5 years but increasing available funds under Compensatory Afforestation funds Management and Planning Authority (CAMPA) on account of forest land transfer to non-forestry purpose but only for site specific and identified works as permissible as per Supreme Court judgement of July 2009, primarily to rejuvenate degraded forests and modernize & strengthen the forest department at cutting edge level at field formations.

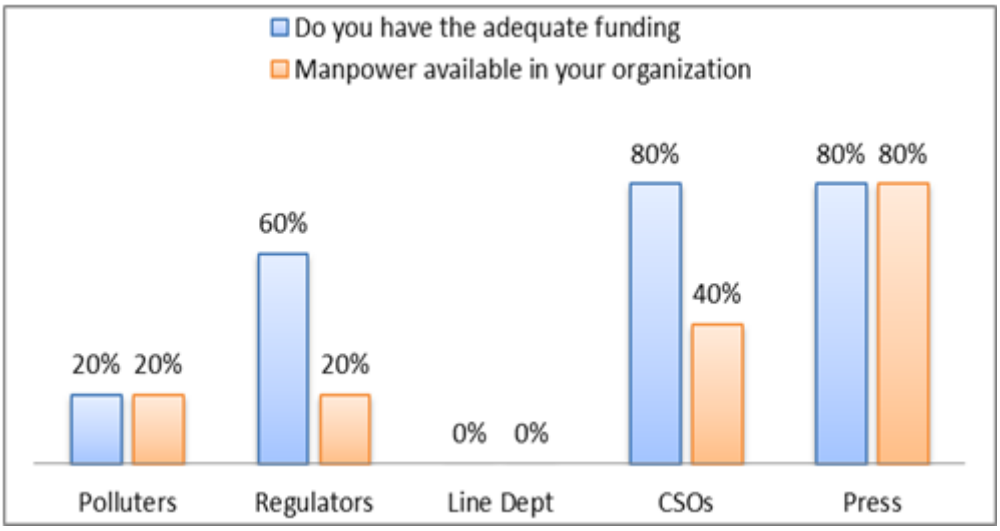

Figure 4.

4.6 System for Access to Information / Public Transparency

On an average 78% of the prioritized study points indicated that they have a system for access to information / public transparency. While the Civil Society Organizations and the Press indicated 100 % mechanism in place; Line departments 80%, Regulators 70% and Polluters response is 40%, leading to average figure of 78% from the primary data as shown in Fig 5. On evaluation of web sites of State Line Departments and Regulators the main finding is that situation has improved, but the majority of the websites are not updated and public transparency is restricted to that extent. Even the shared information on the web sites are not facilitators of periodic compliances that are legally enshrined in various acts / rules on the part of polluting units. Web sites of Press are updated and on top of the ladder followed by MoEF&CC web site.

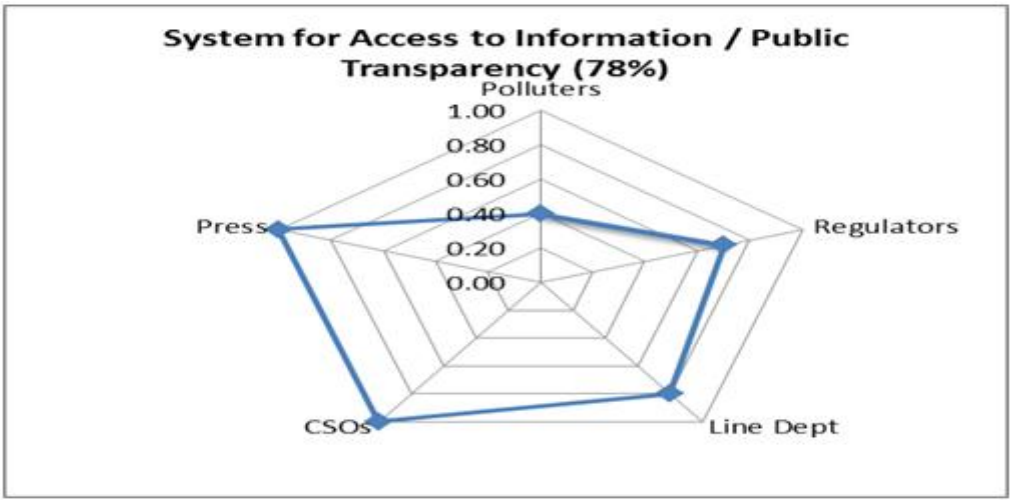

Figure 5.

In the international context, the right to information is included in the Universal Declaration of Human Rights (Art. 19), the International Covenant on Civil and Political Rights (Art. 19(2)) and Informational rights are widely found in environmental treaties.

4.7 Internal system and processes for delivering environmental services

The primary data of assessed key stakeholders indicate that on average 62% have the internal system and processes for delivering environmental services as shown in Fig 6. While Civil Society Organizations indicated 100%, Regulators 50%, Press and Polluters 60% each and the line departments 40%, totaling to average 62%. The secondary data from Civil Society Organizations in Doon Valley indicate that despite limited resources with them their internal systems and processes have led to timely interventions, delivering environmental services efficiently.

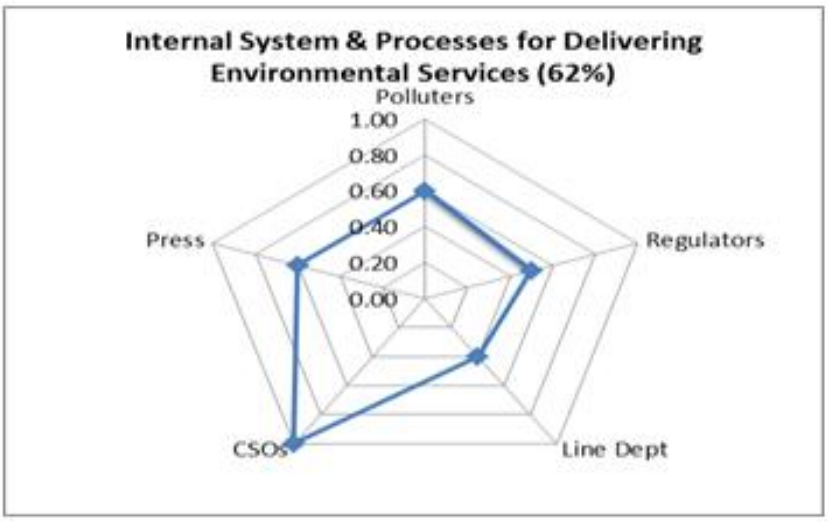

Figure 6.

4.8 Scope of community supported execution

On an average 56% scope of community supported action execution is indicated by the primary data with CSOs 100%, Press 80%, Line Departments 60%, Regulator 40% and Polluters zero percent as shown in Fig 7. Secondary data of the Forest department on Van Panchayats do indicate community supported execution on community forests. Other external projects like Japan Internationa Cooperation Agency (JICA)funded Natural Forest Management Project, World Bank funded Watershed Project Gramya PH-II and IFAD assisted Integrated Livelihood Support Project with their project design itself have provided community supported execution in contrast to the normal functioning of various line departments.

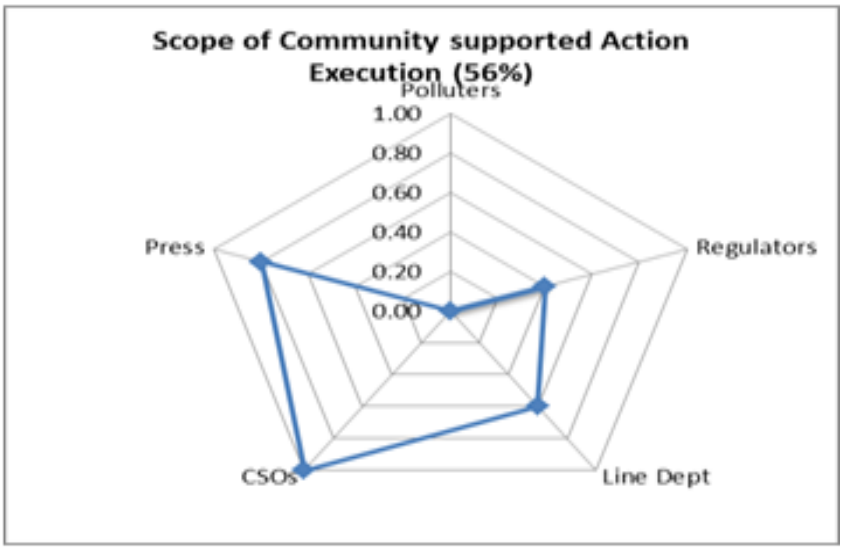

Figure 7.

4.9 External processes of decision making / execution

Only Polluters indicated to the extent of 20% that the external process of decision making / execution of environmental governance is time bound pertaining to matters of their organization by the concerned authorities, making the average figure to reach 4% over five key stakeholders. Other Key Stakeholders, including the Regulators, Line Departments, Civil Society Organizations and Press indicated that their external counterpart's decision making process of environmental governance is not time bound.

The 2014 CSE Report titled "Strengthen institutions, reform laws and streamline processes," says that the pressure and workload of granting consents and authorizations are so high that most SPCBs have little time and resources to do other important works such as planning, executing, monitoring and enforcement and in fact, "deemed consent" has become a norm in many states.

4.10 Quality Of Accountability & Governance Architecture

Only Polluters& Regulators indicated to the extent of 20% each that the quality of accountability and governance architecture to be good. Other Key Stakeholders, including the Line Departments, Civil Society Organizations and Press did not rate the quality of accountability & governance architecture to be good. Therefore the primary data from five key stakeholders indicates that on average 8% assess the quality of accountability and governance architecture to be good.

The 2014 CSE Report indicates that the quality of most EIA reports is questionable. The data analysed by CSE shows that the majority of projects is not inspected post forest / environment clearance and while 94 % of proposals seeking forest clearance are approved., nearly 100 % projects are cleared on environmental clearance and there is no centralized database in the country having data on consents, clearances and compliance status.

4.11 Integrated Framework Systems For Environmental Governance

The primary data indicates that 92% stakeholders perceive a common interest in governance to be important for the effectiveness of environmental governance followed by the Integrated Environmental Governance from Sustainable Development perspective and environment & forest perspective at 88 % each as shown in Fig 8. However Stakeholder organizations following Sustainability in their activities and processes is at 40%.

Report of the World Commission on Environment and Development: Our Common Future says that our inability to promote the common interest in sustainable development is often a product of the relative neglect of economic and social justice within and amongst the nations (WCED, 1987).

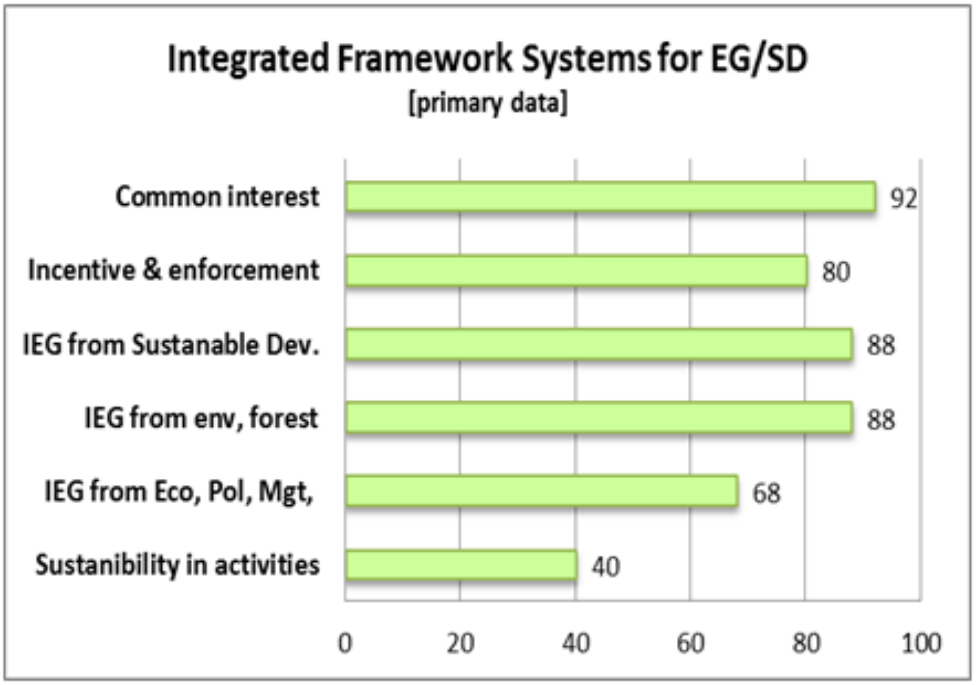

Figure 8.

Therefore the maximum scoring to "common interest" by the Doon Valley Stakeholders, along with a relatively high score on viewing integrated environmental governance from a variety of perspectives like economics, political, management, environment, forest and sustainable development is a major finding of the present research on evolving common interest in the context of the WCED report.

4.12 Significant Parameters of The Environment Governance Framework

Amongst the significant parameters of the environmental governance framework rated as significant by the Stakeholders as per the primary data, Balanced Scorecard Framework scores highest at 88%, closely followed by 4 others at 84% while Sustainable Use scores 64% at the bottom as shown in Fig 9. Precautionary approach, Common but differentiated responsibility and Equity principle are environmental protection & sustainable development principles.

Sustainable Competitive Advantage through Environmental Governance as one of the parameters has been scored at 72% along with Integration &interrelationships in primary data. Overall key finding is that all 9

parameters have been perceived positively with even the lowest at 64%, out of which 6 parameters have scored 80% plus on average from all stakeholders.

In 2012 Rio Conference, on Institutional Framework for Sustainable Development, IUCN positioned 3 principles of governance, including Inclusive and integrated decision-making; A bottom-up / community-led approach; and A rights-based approach to environmental governance, which protects the rights of the weakest and most vulnerable and enforces responsibilities for sustainability. These are in sync with the preferences given by the stakeholders in primary data.

Secondary data, particularly post 2013 disaster and various studies& reports have emphasized Sustainable Use as a significant parameter for Uttarakhand Himalayas. Oxfam India Study of 2014 authored by Ravi Chopra titled " Uttarakhand: Development & Ecological Sustainability" has concluded that ecologically sustainable development is the basic prerequisite for disaster mitigation and equitable development will reduce the vulnerable populations(Ravi Chopra, 2014).

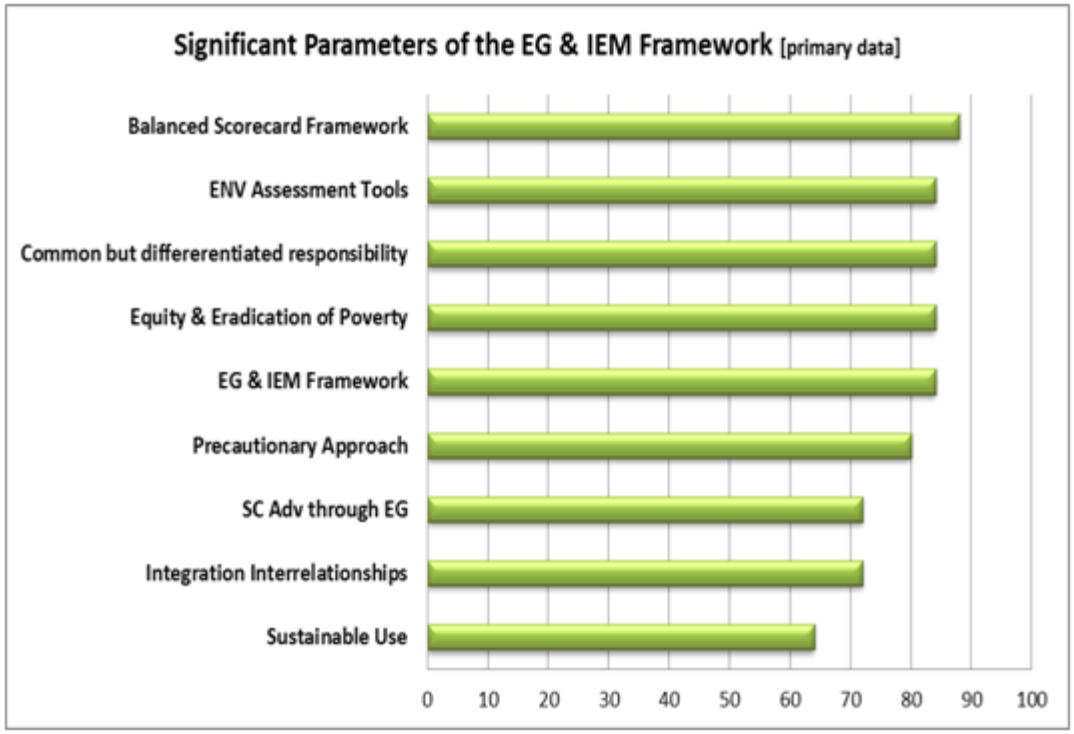

Figure 9.

4.13 Overall Success On Sustainable Development, EG & IEM Framework

The study's key finding from primary data is that average overall score by the five stakeholders, on sustainable development and environmental governance in the Doon Valley, is 24% with major contribution coming from Regulators at 80%, line departments and polluters each at 40%, Civil Society Organizations at 20% and Press at 10% as shown in Fig 10.

No secondary data could be traced to the overall success of sustainable development, Environmental Governance & Integrated Envronment Management framework in Doon Valley having the input of the five stakeholders. Even the individual stakeholders' assessments linking their duties need a separate and a wider study.

While recently published Environmental Democracy Index(EDI) for 70 countries ranks provisionally India 24th with country score of 1.65 vis-à-vis highest score of 2.42 for Lithuania citing that "overall, India's EDI scores demonstrate its commendable progress in enacting a strong right to information law and providing broad rights for the public to use the judicial system to seek justice on environmental matters"(EDI website, 2015).Almost 50 percent of these70 countries assessed, are not making their real-time air quality data for their capital cities available online, which India has started in Feb 2015 (AQI, 2015).

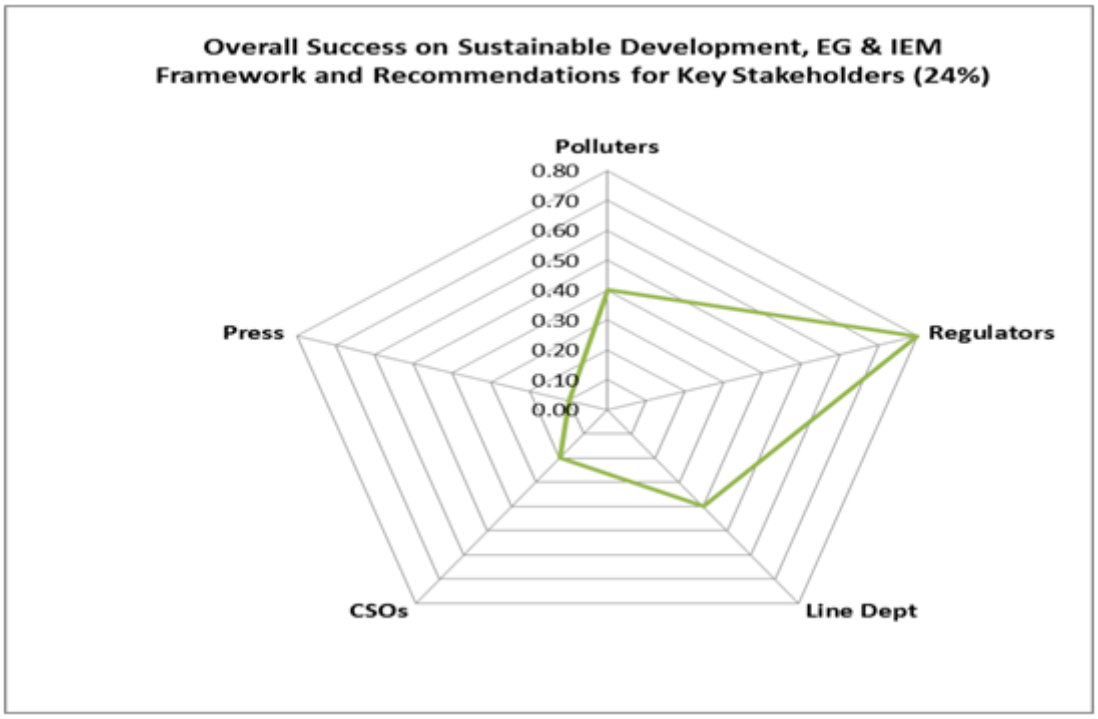

Figure 10.

V. DISCUSSION

5.1 Mechanism For Participation Of Stakeholders

Analysis of primary and secondary data brings out a need for institutionalizing mechanism for participation of stakeholders, particularly of civil society organizations and the press, especially in Hospitals, Municipals Bodies and in line departments on environmental governance issues. If there are no mechanism for participation, common interest cannot be implemented which has come out as a key framework system for effectiveness of environmental governance. Present compliance status on municipal solid waste and hazardous waste, including bio-medical waste necessitates such mechanism of participation not only in Doon Valley but all over Uttarakhand. The Balanced Scorecard Framework provides such an opportunity and mechanism for participation of stakeholders pursuing their common interest.

5.2 Internal Resources & Process Of Execution

5.2.1 Availability of Adequate Funding/Manpower at Stakeholder level

Regulators (UEPPCB, SEIAA, CPCB) have enough funds with them, but insufficient manpower primarily because State Govt or Govt of India is to approve the posts creation in the case of State and Central regulator respectively. In the particular case of Uttarakhand Environment Protection & Pollution Control Board, the Board has got its own funds to the tune of Rs 112 crores generated by consent fees and water cess, and the Board is to discharge its statutory, regulatory functions prescribed under various acts related to the environment, water, air; the Board is incapacitated on account of shortage of competent technical manpower despite having sufficient resources. Therefore, wherever funds are available to the regulators, autonomy with them to manage their affairs so that they can be accountable, is the need of the hour. Other Statutory Boards and Authorities who are dependant on government grants can be given reasonable autonomy to generate sustainable resources towards fulfilling their legal obligations to serve the purpose for which they have been created, along with operational autonomy.

Civil Society Organizations are carrying out pilot successful interventions primarily through their own funds by community contributions and other sources. As far as pilots are concerned, CSOs have sufficient funds, but neither they have a mandate to look after the entire landscape nor resources to that extent. Line departments do have inadequate funds &the manpower at their command to timely discharge their environment protection functions.

5.2.2 Process of Execution

Having internal resources in the form of funding and manpower is a critical beginning, but not an end in itself. What delivers the organizations is their process of execution. The primary data shows that on average the adequate manpower has been perceived at 32% despite adequate funds available at 48% as shown in Fig 11,

is corroborated by the secondary data of State Regulator UEPPCB who have the funds but posts creation is done by State Govt.

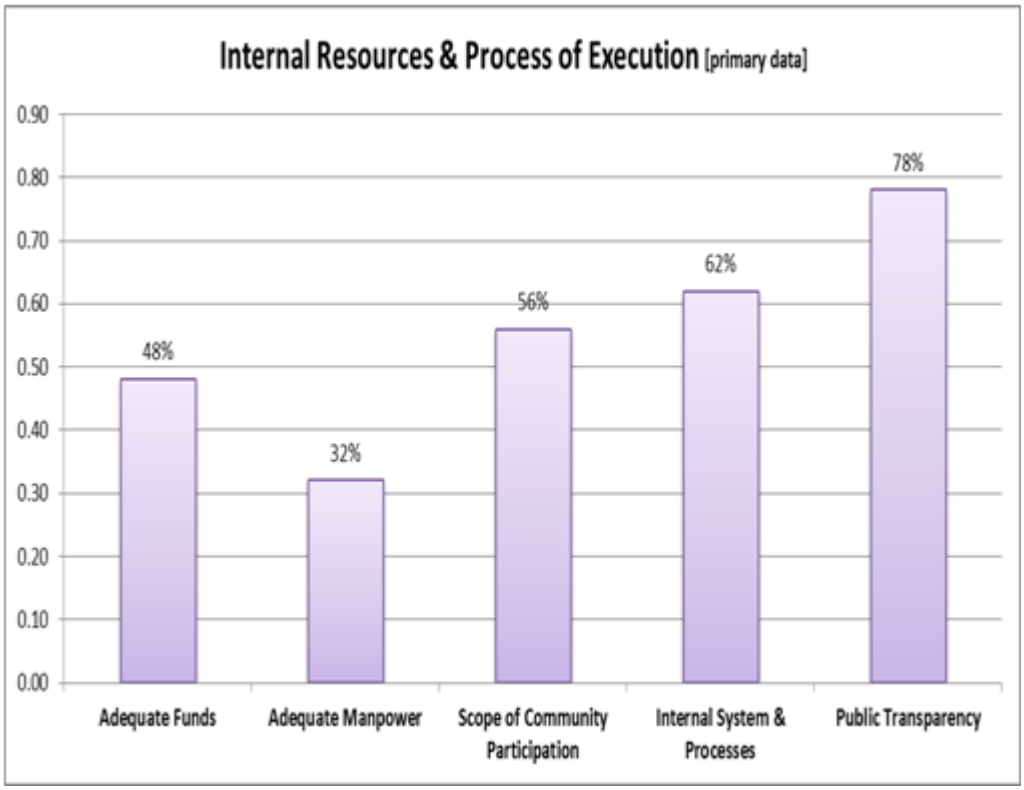

Figure 11.

On public transparency, though the primary data put the average perception figure by all stakeholders at 78%, but the evaluation of the websites of all regulators, and line departments and other secondary data indicate a lot more to be done at the timely sharing of information by which community participation becomes more effective and also internal systems & processes get strengthened.

The average of the five subcomponents of internal resources(funds & manpower) and process of execution (community participation, internal systems, transparency) for all five stakeholders is at 55 %, almost half at present status, does indicate another half a gap wherein immediate action execution is likely to enhance productivity and outcome of the respective organizations in terms of their respective delivery towards better environmental governance.

5.3 Linkages Between Accountability Architecture & Quality Of Environment Governance

Key stakeholders assessed their own organization's internal resources & process of execution, on average, at 55%. They also assessed an external process delivery & accountability put together at 7%, contributed by two factors of timely decision making of external processes at 4% and their accountability mechanism in place at 10%. The interplay between resource availability (funds & manpower) and processes (internal & external) decide the outputs, outcomes & productivity of respective organizations.

Key stakeholders have also assessed the quality of accountability & governance architecture (primarily external to their organizations) to be very low at 8 %.

The three tools of internal resources & process execution, external process delivery & their accountability mechanism and the quality of accountability & governance architecture put together, in the conducive environment of significant parameters of the EG & IEM framework and integrated framework systems for environmental governance, can lead in the attainment of the overall success of sustainable development, presently scored at 24% in the primary data. The environmental governance framework and integrated framework systems for sustainable development provide the enabling milieu in achieving designed outcome indicators.

The three levers inside the parenthesis affect each other and even slight tweaking in one of them like putting in governance architecture in place or improving quality in it or making external process time bound is likely to improve resource utilization and process execution drastically as shown in Fig 12.

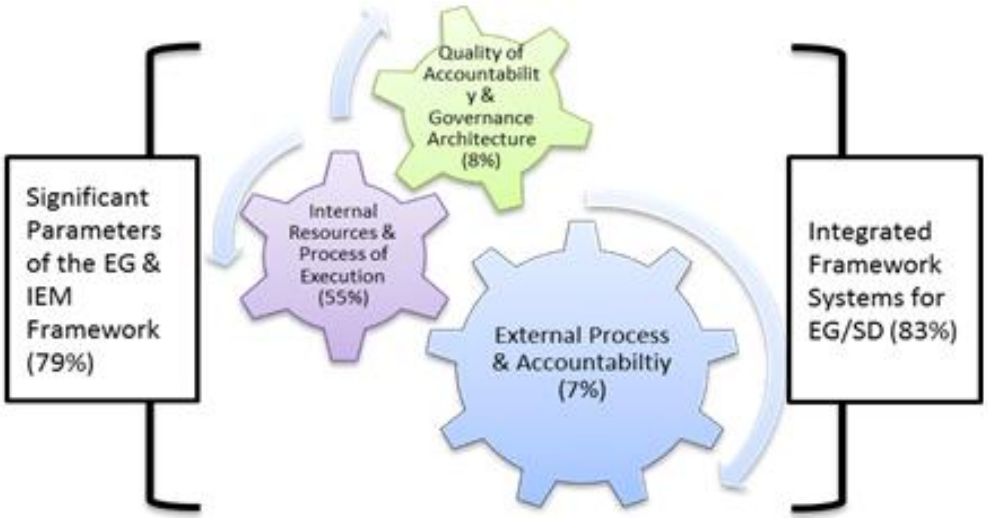

Figure 12.

5.4 Sensitivity On Environmental Governance

The total gist of responses by all stakeholders as per the primary data indicate that the Civil Society Organizations and Press are the most sensitive groups on environmental governance at about 61 % each, closely followed by Regulators at 57% and thereafter Line Departments and Polluters 42% & 41% respectively as shown in Fig 13. The secondary data, particularly through National Green Tribunal and Court judgements, corroborates the increasing sensitivity with time.

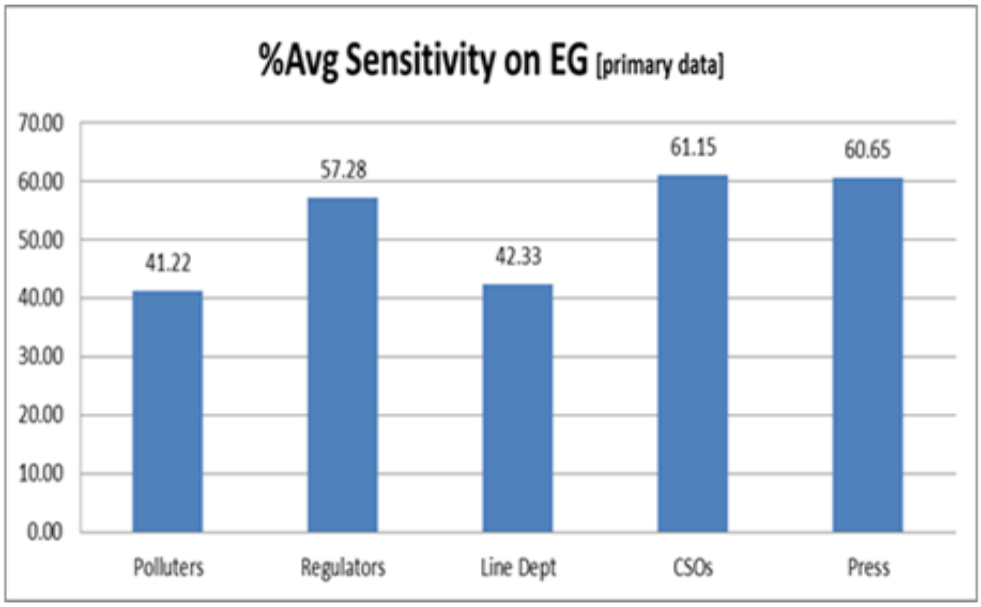

Figure 13.

5.5 Public Transparency

Though on an average 78% of the prioritized study points in the primary data indicated that they have a system for access to information / public transparency, but the secondary data, especially through the web sites of Regulators and line departments indicate that the critical updated data on clearances, consents, authorizations, public hearings, EIA reports is not available in the public domain which can lead to sound decision making.

The environmental statement (a self disclosure) submitted by the companies under section 14 of the Environment (Protection) Rules, 1986 to the regulator can be made available on the regulator's website along with the consent / clearance copy issued to the proponents with compliance conditions. Also the regulator's monitoring, inspection findings and compliance thereof, and grounds of consent rejection if shared, can empower citizens to demand clean environment.

Ministry of Environment, Forests & Climate Change, Govt of India has an agenda 2015 on making necessary changes in Laws, Rules and Processes to ensure efficiency, transparency and to avoid delays(MoEF&CC, 2015).

VI. BALANCED SCORECARD FRAMEWORK FOR ENVIRONMENTAL GOVERNANCE AND SUSTAINABLE DEVELOPMENT

The key stakeholders in their assessment scored balanced scorecard framework highest at 88% and sustainable use lowest at 64% as per the primary data. In fact the four balancing parameters of the balanced scorecard framework created by Kaplan & Norton in 1990s include learning & growth / employees, internal processes, customers and finances/sustainability as the key pillars(Kaplan & Norton, 1996). The focus is, if employees learning & growth needs are taken care of, along with streamlining of internal processes duly catered to customers needs & benefits than in case of commercial organization's finances are automatically created while in case of not-for-profit organizations, sustainability is ensured. In a way sustainable use is also a part of this framework because while identifying customers and their needs & benefits, in the context of the environment; entire flora & fauna, local community, all strata of society and stakeholders become customers. Obviously their genuine needs and benefits can be addressed. Since the four parameters of this framework indicate a balanced whole, all the five stakeholders rated this framework on top as per the primary data. Even the secondary data on this framework for not-for-profit organizations indicate its rising popularity, though the framework started with a focus on commercial organizations in mid 1990s.

The Balanced Scorecard Framework, aligning the various stakeholders towards transformative sustainable development in Doon Valley can be a path breaking as many of the stakeholders are at loggerheads with each other because of their conflicting needs and legal mandates as well within the eco-sensitive notified area. The BSC Framework is to establish a sort of sync between the elements of nature (Fire, Earth, Air, Water) and the energy driven organizational re-engineering to willingly engage the manpower; Understanding different stakeholders needs & benefits; Internal value driving processes with innovation, improved information, quality, quantity & timeliness, all put together driving towards sustainability & better environmental governance having compliances on Environment Protection Act 1986, Water Act 1974, Air Act 1981, Indian Forest Act 1927, Wildlife Protection Act 1972. The BSC framework is to include the Corporate Social Responsibility as per section 135 of the Companies Act 2013, to add value in mountain development and sustainability.

The proposed indicators against the four perspectives in the Balanced Scorecard and their values based upon the primary & secondary data have been used through the software (www.webbsc.com) indicating the current status in Fig 14 and the projections obtained for the next 5 years are shown in Fig 15 & 16.

	Perspective / Indicator	Weight (x of 10)	Description	Value
	Sustainability	2	Sustainable Development along with Integrated Environment Management	32.80%
	Better Environmental Governance	4	Air, Water, Noise, & Waste values under notified Standards	25.00%
	Corporate Social Responsibility	2	Fulfilling the CSR mandate as per Companies Act 2013	15.00%
	Internal Resources	3	Adequate Manpower & Finances	45.00%
	Accountability & Governance Architecture	2	All Stakeholders' accountability & Governance of the same	12.00%
	Total Performance in group	2	**Sustainability**	**32.80%**
	Stakeholders	2	Polluters, Regulators, Line Depts, CSOs and Press	38.44%
	Needs & Benefits	2	Basic minimum needs and Value added benefits	45.00%
	On-time delivery	3	Fulfilling responsibilities towards other stakeholders on time	14.00%
	Mechanism for Participation	2	Structured Consultation & Collaboration	55.00%
	Transparency	3	Putting up information on interactive portal	25.00%
	Total Performance in group	2	**Stakeholders**	**38.44%**
	Internal Value Driving Processes	4	Organization's Internal Value enhancement	38.70%
	Use of electronic tools	2	For Planning, Execution, Monitoring & Evaluation	40.00%
	Quality	3	Competitive & Cost Effectiveness leading to sustainable quality	45.00%
	Internal Control Systems	2	Ensuring the integrity of transactions & systematic safeguards	35.00%
	Timebound Process of Execution	3	Process Scheduling & Priority Scheduling	34.00%
	Total Performance in group	4	**Internal Value Driving Processes**	**38.70%**
	Learning and Growth	2	HRM, Knowledge & Innovation Management	42.90%
	Capabilities	3	ERP, MIS, GIS Development & Use	25.00%
	Employee Capabilities & Satisfaction	4	Skills Enhancement	40.00%
	Strategy Awareness & Motivation	2	Resources spent & Avg scores of the Strategy Awareness Survey	35.00%
	Use of Innovation	1	Out of the box action research pilots	22.00%
	Total Performance in group	2	**Learning and Growth**	**42.90%**
	Total Performance in	**Balanced Scorecard Environmnetal Governance Framework**		38.31%

Figure 14. Weights, Description & Value of Perspectives/ Indicators as on 11 May 2015

Perspectives/Indicators of BSC	1-Jan-15	1-Jan-16	1-Jan-17	1-Jan-18	1-Jan-19	1-Jan-20
Balanced Scorecard Env. Gov. Framework	37.39	49.24	59.73	70.53	81.80	93.74
Sustainability	28.21	53.51	54.40	66.87	81.54	99.15
Better Environmental Governance (%)	25.00	39.99	54.98	69.98	84.97	100.00
Corporate Social Responsibility (%)	15.00	31.99	48.98	65.97	82.96	100.00
Internal Resources (%)	45.00	54.00	62.99	71.99	80.98	90.00
Accountability & Governance Architecture (%)	12.00	29.59	47.18	64.77	82.36	100.00
Stakeholders	38.44	50.18	61.82	73.39	84.89	96.38
Needs & Benefits (%)	45.00	54.00	62.99	71.99	80.98	90.00
On-time delivery (%)	14.00	31.19	48.38	65.57	82.76	100.00
Mechanism for Participation (%)	55.00	64.00	72.99	81.99	90.98	100.00
Transparency (%)	25.00	37.99	50.99	63.98	76.97	90.00
Internal Value Driving Processes	38.70	50.25	60.81	71.36	81.92	92.50
Use of electronic tools (%)	40.00	54.99	64.99	74.98	84.98	95.00
Quality (%)	45.00	54.00	62.99	71.99	80.98	90.00
Internal Control Systems (%)	35.00	45.99	56.99	67.98	78.98	90.00
Timebound Process of Execution (%)	34.00	46.19	58.39	70.58	82.77	95.00
Learning and Growth	42.90	52.01	60.83	69.66	78.72	88.19
Environment Information System Capabilities (%)	25.00	37.99	50.99	63.98	76.97	90.00
Employee Capabilities & Satisfaction (%)	40.00	49.99	59.99	69.98	79.98	90.00
Strategy Awareness & Motivation (%)	35.00	45.99	56.99	67.98	78.98	90.00
Use of Innovation (%)	22.00	33.59	45.19	56.78	68.37	80.00

Figure 15. Performance % on Balanced Scorecard Perspectives / Indicators

Here the balanced scorecard measures Doon Valley's performance across four perspectives: learning and growth, internal value driving processes, stakeholders and sustainability. Scores up to 25 are assumed to be low and marked with red while scores more than 75 are assumed to be high and marked as green in Fig 15. Benchmark values as of 1 Jan 2015 have been put based upon primary and secondary data assessments.

The balanced scorecard projected performance across the four perspectives is graphically shown over next 5 years in Fig 16. The balanced scorecard can be updated regularly while defining organization's goals & objectives and the same can be monitored along with corrective measures (Marcel van Assen 2010).

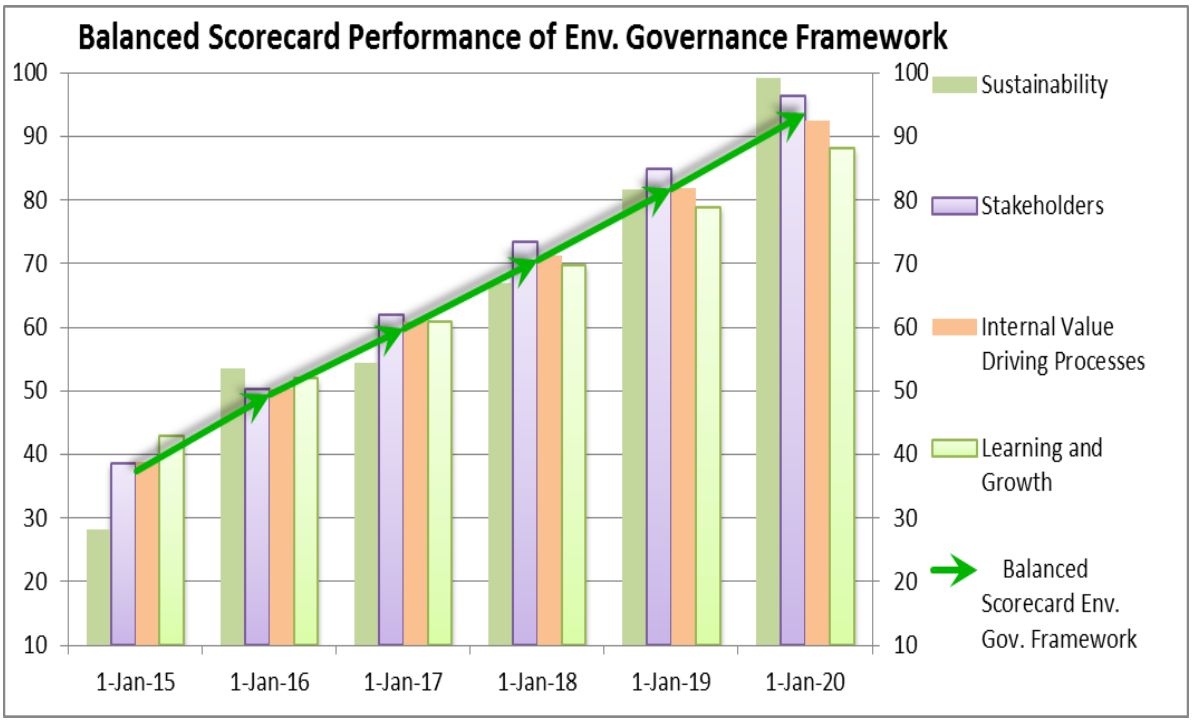

Figure 16. Five year Performance Scorecards through various Perspectives

VII. RECOMMENDATION

Through the Balanced Scorecard, Environmental Governance Framework the present study recommends the need to have strong connective & enforceable systems amongst important and critical stakeholders that include Regulator, Polluter, Performing Departments / Organizations and Public / Civil Society Organizations, using web based interactive portal wherein qualitative and timely information sharing by all stakeholders and active public participation is facilitated.

The second recommendation is on incentive & penal mechanisms for effectiveness of governance for stakeholders.

The third recommendation is on streamlining both internal and external processes along with time bound decision making.

The fourth recommendation is on accountability mechanisms and implementation thereof for all these stakeholders.

The fifth recommendation is on making institutions, especially regulators and line departments autonomous in all respects and professionally competent.

VIII. CONCLUSION

The present research concludes that the legal framework of environmental governance is in place and the internal & external processes of its execution through key stakeholders affects the quality of environmental governance.Through the available primary and secondary data, the study also finds that various stakeholders see accountability mechanism for slow decision making and its governance architecture to be qualitatively unsatisfactory.

A quote by John Dewey, 1878 "Democracy Begins in Conversation" is quite apt. In other words, talking together is a radical act. Democracy is participation and deliberation. It's about people learning to think together, take action, and coming back together to evaluate their actions and to have continuous dialogue on governance. The study concludes that there is a greater need of action execution projects which are community centric and also enhanced public participation.

The research study concludes that the quality of accountability architecture of environmental governance framework determines the level of its overall success and that of sustainable development in the region.In the context of Uttarakhand and particularly the Doon Valley, this needs a judicious balance between environmental governance and sustainable needs of the society, particularly local community.

The research study also concludes that customizing the Balanced Scorecard framework and using it for sustainable development and environmental governance framework can provide the strategic competitive advantage to Uttarakhand. The environmental governance framework and integrated framework systems for sustainable development provide the enabling milieu in achieving designed outcome indicators in the context challenges due to the accelerated pace of migration from the hills in Doon Valley.

The critical trio of internal resources & process execution, external process delivery & their accountability mechanism and the quality of accountability & governance architecture put together, in the milieu of significant parameters of the EG & IEM framework, can lead in the attainment of the overall success of sustainable development, as concluded by the study.

REFERENCES

[1]. Delmas, Magali A., and Oran R. Young. Governance for the Environment: New Perspectives (New York: Cambridge University Press, 2009).

[2]. Fakier, Saliem, Anthea Stephens, and Jenny Tholin. Environmental Governance: Background Research Paper produced for the South Africa, October 2005.

[3]. Guha, Ramchandra. Environmentalism: A Global History (Gurgaon: Penguin Group, Allen Lane, 2014).

[4]. Centre for Public Interest Litigation and others versus Union of India and others . WP (Civil) 423 & WP(Civil) 10 (The Supreme Court, 02 Februrary 2010 & 2011).

[5]. Manohar Lal Sharma v. The Principle Secretary & Ors. WP (Crl) 120, WP(Civil) 463, 515 & 283 (The Supreme Court, 24 September 2012, 2012, 2012 & 2013).

[6]. Transparency International. Corruption Perception Index (Berlin, 2013).

[7]. Bachev, Hrabrin. "Mechanisms of Governance of Environmental Sustainability." Institute of Agricultural Economics, 2009.

[8]. Delmas, Magali, and Michael W. Toffel. "Stakeholders and Environmental Management Practices: An Institutional Framework." Business Strategy and the Environment, 2001: 13

[9]. Prado, Cesar de. Global Multi-Level Governance: European and East Asian Leadership. United Nations University Press, 2007.

[10]. Murthy, Prof. K.V. Bhanu. "Business Ethics and Corporate Responsibility – A New Perspective." ISO 26000 Guidance on Social Responsibility and the implications for Developing Countries. New Delhi: Delhi School of Economics, 16-17 April 2007.

[11]. Elena Costantino, Mario Paola Marchello, Cecilia Mezzano. "Social Responsibility as a Driver for Local Sustainable Development." International Workshop on the Social Dimension of Adaptation to Climate Change. Venice: The International Centre for Climate Governance and Foundazione Eni Enrico Mattei, 18-19 Feb 2010.

[12]. Bulkeley, Harriet. Cities and Climate Change (Florence, Kentucky USA: Routledge, 2013).

[13]. Koh Kheng Lian, Nicholas A. Robinson. "Regional Environmental Governance: Examining the Association of Southeast Asian Nations (ASEAN) Model." Global Environmental Governance, 2002: 1-21.

[14]. Bell, M.L., B.F. Hobbs and H. Ellis. 2003. The use of multi-criteria decision-making methods in the integrated assessment of climate change: implications for IA practitioners. Socio-Economic Planning Sciences 37(4):289-316.
[15]. Centre for Science and Environment. "Strengthen institutions, reform laws and streamline processes: Agenda for improving environmental governance in India. (CSE, New Delhi, 2014).
[16]. Uttarakhand Environment Protection and Pollution Control Board. Annual Report 2013-14, UEPPCB, 2014.
[17]. Ministry of Environment & Forests, Govt of India. Municipal Solid Waste (Management & Handling) Rules, 2000 (MoEF, New Delhi).
[18]. United Nations Conference on Environment & Development, Agenda 21: Rio Conference. United Nations, Rio de Janerio, Brazil, 3 to 14 June 1992.
[19]. World Commission on Environment and Development,The Brundtland Report:Our Common Future, 1987, United Nations.
[20]. Chopra, Ravi. Uttarakhand Development and Ecological Sustainability. Supported by Oxfam India, New Delhi: Oxfam India, 2014.
[21]. http://www.environmentaldemocracyindex.org/
[22]. http://aqi.iitk.ac.in:9000/
[23]. Ministry of Environment, Forests & Climate Change, Govt of India. Development without Destruction: A Saga of Turnaround (MoEF, New Delhi, 2015).
[24]. Kaplan, Robert S; Norton, D. P. The Balanced Scorecard: Translating Strategy into Action (Boston, MA.: Harvard Business School Press, 1996).
[25]. www.webbsc.com
[26]. Environment (Protection) Act, 1986
[27]. Air (Prevention and Control of Pollution) Act, 1981
[28]. Water (Prevention and Control of Pollution) Act, 1974
[29]. Indian Forest Act, 1927
[30]. Wild Life (Protection) Act, 1972
[31]. The Companies Act, 2013
[32]. Marcel van Assen, Gerben van den Beng and Paul Pietersma. Key Management Models (Noida, India: Pearson Education Ltd, 2010).