As literature suggests fiscal federalism broadly relates to state's management of public finance. Its core concern is cost management and revenue distribution for delivering public goods and execution of public welfare programmes. It is probably the reason that in fiscal federalism stress is on revenue distribution and sharing of expenditure responsibility. However, the federal government generally owns large share of revenue in order to maintain equity and efficiency in the national economy. The federal government generally finances nation-wide programmes. This is also true in the context of environmental governance. Generally federal constitutions follow variegated methods of role assignment to different orders of government. It identifies three roles for public sector, namely: stabilization, income redistribution, and resource allocation. It assigns stabilization (of economy and market) functions and roles to the federal government, "because it controls monetary policy and has more scope to use fiscal policy than subnational governments".\(^1\) It further reserves re-distributive role for federal government for no other reasons but to counter the 'beggar-thy-neighbour' policies of resource-rich regions, and to ensure 'equity'. However, administration and execution of standardized national policies are generally assigned to local governments. "Some services can be provided less
expensively on a large scale, or their benefits may spill over across districts. Providing these services centrally creates economies of scale and captures externalities, but at the cost of imposing a common policy on populations with varied preferences and priorities. This trade-off, which is the basis of the fiscal federalist approach, guides some of the choices that must be made in allocating functions. The services central government provide should benefit the entire economy or exhibit substantial economies of scale for example, national defense, external relations, monetary policy, or the preservation of a unified national market. Correspondingly, subnational units should provide local public goods.”

In other words, fiscal federalism follows a complex process of responsibilities assignments to different orders of government. However, an ideal approach is that responsibilities must be commensurate with revenue and tax bases of the units. To put simply, “the guiding principle of revenue assignment is—finance should follow function. Overall, the sub-national finance includes a mix of user charges, taxes and transfers. Sub-national taxes generally include property tax, personal income tax (including income from agriculture), capitation or head tax. On the other hand, VAT, corporate income tax having bearings upon prices of goods generally belongs to central government.

World Bank in its report (1999/2000) has identified three important variables determining transfers. “The first variable is the amount to be distributed. This can be fixed as a percentage of national taxes, or it can be
an ad-hoc decision, sometimes to reimburse pre approved expenditures. The second variable is the (laying down) criteria for distributing transfers among jurisdictions...the third variable concerns the conditionalities imposed on the use of transfers." Anwar Shah and Robin Boadway identify three broad component of revenue sharing: (i) the type of revenue shared, the proportion of those revenue that will go to state as a whole, and the allocation of the shared revenue among the states. Proportion of revenues that usually go to units generally depends on the size of the expenditure responsibilities of the units, and volume of their own tax mobilisation.

Federal polities follow different rules of revenue allocation, "at one extreme is the principle of derivation whereby revenues are transferred to state in accordance with where the federal revenue were raised", while other extreme is the principle of equalization whereby "each state's share will reflect the amount related with other provinces and its need for funds to finance the provision of some standard level of public services." The significance of revenue sharing lies in the fact that it allows decentralization of expenditure responsibilities despite federal government retaining major revenue raising power at its end.

Intergovernmental transfers are generally of two types: general purpose transfers without any string attached to it, and specific purpose transfer, which are generally conditional. The basic objective of general purpose transfer is to augment the resources of federal units. However in order to streamline general purpose transfer some formula's are devised for ensuring
fair play in distribution of revenues. Specific purpose transfers may be on cent percent basis or it would be on matching formula basis. On the matters of shared governance expenditure is generally shared. In so far as maintenance of regulated environmental regime is concerned federal government bears the cost of research and development and for execution of maintenance of harmonised structure of environmental regime throughout the regions fiscal transfers are made with or without conditionalities.

From above brief discussion, we can now probably sum up the essence of fiscal federalism in the following words "... it is both instrumental and quasi-constitutional in its effects. Fiscal federalism is the instrumental in the sense that it enables government to pursue the public interest and policy goals by virtue of what is in its tool kit - tools such as intergovernmental transfers and tax or revenue sharing arrangements. These instruments are used most effectively when there is a significant measure of societal consensus or at least intergovernmental consensus on policy goals and the efficacy of the tools to advance those goals".⁶

Federal constitutions generally provide for the division of financial resources and obligations between the federal government and units. In this division, efforts are usually made for seeking 'balance between expenditure assignment and revenue efficacy'. For reasons of building an all pervasive economic union, the division of revenues and responsibilities in a watertight manner becomes difficult. However, certain general norms are followed in
each federation in dividing expenditure and allocating revenue. Generally matters of national concerns are assigned to federal government and matters of local importance are assigned to regional governments. It is with this understanding that in subsequent paragraphs an attempt has been made to understand critically fiscal federalism of environmental governance in India and Canada.

**Fiscal Federalism in India**

Before we proceed further on the constitutional text on the distribution of taxes and revenues, it is important to keep in mind that very objective of fiscal federalism in India is to create an economic union. National economy ipso facto includes regional economies. The centre has overwhelming powers of maintaining equity, efficiency and stability in the economy. There is nothing like exclusive state's economy. The two levels are expected to coordinate with each other. About the fiscal constitutional arrangements, the Supreme Court of India in *Coffee Board v. C.T.O.*, A. 1971 SCC 870 has maintained that

Sources of revenue, which have been allocated to the Union, are not meant entirely for the purposes of the Union but have to be distributed according to the principles laid down by Parliament legislation as contemplated by the Articles aforesaid. Thus all the taxes and duties levied by the Union...do not form part of the Consolidated Fund of India but many of these taxes and duties are distributed amongst the states and form part of the Consolidated Fund of the States. Even those taxes and duties which constitute the Consolidate Fund of India may be used for the purposes of supplementing the revenues of the States in accordance with their needs. The question of distribution of the aforesaid taxes and duties amongst the States and the principles governing them, as also the principles governing grant-in-aid... are matters which have to be decided by a high-powered Finance Commission, which is a responsible body designated to determine those matters in an objective way...The Constitution makers realised the fact that those sources of revenue allocated to the States may not be sufficient for their purposes
and the Government of India would have to subsidise their welfare activities...Realising the limitations on the financial resources of the States and growing needs of the community in a welfare State, the Constitution has made...specific provisions empowering Parliament to set aside a portion of its revenues... for the benefits of the States, not in stated proportions but according to their needs...The resources of the Union Government are not meant exclusively for the benefit of the Union activities...In other words, the Union and the States together form one organic whole for the purposes of utilisation of the resources of territories of India as a whole. 

Center-state financial relations have been elaborated in part XII, Chapter I from Articles 265-290. On the other hand, the 7th Schedule lists out respective taxes to be levied and other sources of revenues for each layer of government. Union government enjoys exclusive competency over the taxes on income other than agricultural; duties of custom including export duties; duties of excise on tobacco and other goods manufactured or produced in India except (a) alcoholic liquors for human consumption, (b) opium, Indian hemp and other narcotic drugs and narcotics, but including medicinal and toilet preparations containing alcohol or any substance included in sub-paragraph(b) of this entry; corporation tax; taxes on the capital value of the assets, exclusive of agriculture land, of individuals and companies; estate duty in respect of property other than agricultural land; terminal taxes on goods or passengers, carried by railway fares and freights; taxes other than stamp duties on transactions in stock exchanges and future markets; rates of stamp duty in respect of bills of exchange, cheques, promissory notes, bills of lodging, letters of credit, policies of insurance, transfer of shares, debentures, proxies and receipts; taxes on the sale or purchase of newspapers, where such sale or purchase takes place in the course of inter-state trade or commerce; taxes on the consignment of goods( whether the
consignment is to the person making it or to any other person), where such consignment takes place in the course of inter-state trade or commerce, taxes on services.

List II of Seventh Schedule lists out the tax base of state as: taxes on agricultural income; duties in respect of succession to agricultural land; taxes on lands and building; taxes on mineral rights subject to any limitations imposed by Parliament by law relating to mineral development; duties of excise on the (a) alcoholic liquors for human consumption and (b) opium, Indian hemp and other narcotic drugs and narcotics manufactured or produced in the state and countervailing duties at the same or lower rates on similar goods manufactured or produced elsewhere in India, but not including medicinal and toilet preparations containing alcohol or any substance included in sub-paragraph (b) of this entry; taxes on the entry of goods into a local area for consumption, use or sale therein; taxes on the consumption or sale or electricity; taxes on the sale or purchase of goods other than newspapers, subject to the provisions of entry 92A of List I; taxes on advertisements broadcast by radio or television; taxes on goods and passengers carried by road or on inland waterways; taxes on vehicles, whether mechanically propelled or not, suitable for use on roads, including tramcars subject to the provisions of entry 35 of List III; taxes on animals and boats; tolls; taxes on professions, trades, callings and employments; capitation taxes; taxes on luxuries, including taxes on entertainments, amusements, betting and gambling; and rates of stamp duty in respect of
documents other than those specified in the provisions of List I with regard to rates of stamp duty.

**Sharing of Taxes**

Stamp duties and duties on excise on medicinal and toilet preparations are levied by the Union. These duties do not form the part of consolidated fund of India rather these are assigned to the respective states in which they are levied. Service tax, added by the Constitution (Eighty-eight Amendment) Act, 2003, is collected and appropriated by union and state government in accordance with the principles laid down by the Parliament by law (Art 268A).

Taxes on sales and purchase of goods other than newspapers and consignment tax which takes place during inter-state trade or commerce are levied and collected by the union government, however, these are subsequently assigned to the states in which these taxes have been levied and shall be distributed among the states in accordance to the principles laid down by the Parliament by law.

Tax-distribution and sharing between the center and states are generally made on the basis of the recommendation of the Finance Commission (FC) constituted under Art 280 of the Constitution. As per the provisions of the constitution, the Commission is expected to recommend as to the

I. the distribution between the Union and the States of the net proceeds of which are to be, or may be, divided between them and to determine the respective shares of each state in such proceeds

II. the principles which should govern the grant-in-aid
III. to suggest measures for augmentation of revenue and resources of state; and

IV. to advise on those other items which have been referred to in terms of reference.

Transfers made under FC's recommendation are mainly of two types: tax-devolution, and criteria-based transfers. As of now about 38 per cent of gross revenue receipts of the federal government is transferred to states under the head FC transfers.

Broadly there are three principle mechanisms of revenue transfer from federal government to state government: (i) mandatory transfer made under recommendations of Finance Commission; (ii) discretionary and non-statutory plan assistance made under recommendations of Planning Commission. This covers a large number of centrally sponsored schemes as well; and (iii) grants released by the central ministries for the execution of its programmes and policies. This is also a kind of discretionary grant. In this context one should also bear in mind the primary difference between Finance Commission transfer and Planning Commission transfer. While Finance Commission transfer is intended to serve the objective of fiscal economic management, the Planning Commission transfer is targeted to secure desired level of socio-economic development in the country. Also while Finance Commission transfer is constitutionally mandated, the Planning Commission transfer is designed in order to give shape to the development priorities of a government. It is therefore Planning Commission grant is generally political in character. Content of recommendation is
determined in accordance with 'politics of development'. However over the years, procedural transparency has been introduced in order to ensure 'fair play' in meeting the development needs and priorities of a state.

Constituted first in 1950 under executive order of the union government the broad functions of the Planning Commission can be classified as: " (i) assessment of the material, capital and human resources of the country; (ii) formulate a plan to the most effective and balanced utilization of the country's resources; (iii) determination of priorities and allocation of resources for completing each stage of plan; (iv) determination of mechanism for successful implementation of plan; and (v) stage wise appraisal of progress made in the execution of policies and to make interim recommendation."\textsuperscript{10} Recommendation of Planning Commission is placed before National Development Council (NDC) for its approval. By virtue of its composition (where Chief Ministers are members), NDC has assumed critical salience in the national planning process. Its principal function is to approve national plans and priorities national development.

In addition to Finance and Planning Commissions there is provision for ministerial grants. These grants are made for various centrally sponsored schemes approved by Planning Commission. These schemes are designed and formulated by union government. While these schemes are executed by state governments under the direction and guidance of central ministry, the concerned central ministry issues other necessary guidelines regarding
content, coverage, expenditure and technical and staffs required for such schemes. Though states have right to act in the centrally sponsored scheme, they have been critical on two counts: (i) that there are inadequate consultation with states in the formulation and designing of central schemes; and (ii) most of these schemes encroach upon the areas covered under state list.\textsuperscript{11}

**Cost Management of Environmental Governance**

General objective of allocation under the head of environmental governance is securing environmental sustainability. "This is because (i) economic and political incentives to states and local bodies often favour the destruction of natural resources since the benefits from conservation and costs of conservation and distributed asymmetrically across territorial units and, (ii) the ecologically rich regions often have to spend more on conservation measures than others and are in need of more resources given their fiscal capacity. For example, the Indian states having larger forest cover have to spend more on maintenance and development of forestry and wildlife sectors.\textsuperscript{12}\textsuperscript{12}. It has been rightly pointed out that "the state government considers forest net liability rather than source of revenue."\textsuperscript{13}\textsuperscript{13}It is probably the reason that the Twelfth Finance Commission recommended for a separate grant for maintenance of forest. Almost about 35 per cent of the total grants-in-aids allocated to states are meant for environmental activities.
Table 1: Grant-in-aid for Maintenance of Forests

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Andhra Pradesh</td>
<td>44637</td>
<td>65.00</td>
</tr>
<tr>
<td>2.</td>
<td>Arunachal Pradesh</td>
<td>68045</td>
<td>100.00</td>
</tr>
<tr>
<td>3.</td>
<td>Assam</td>
<td>27714</td>
<td>40.00</td>
</tr>
<tr>
<td>4.</td>
<td>Bihar</td>
<td>5720</td>
<td>5.00</td>
</tr>
<tr>
<td>5.</td>
<td>Chhattisgarh</td>
<td>56448</td>
<td>85.00</td>
</tr>
<tr>
<td>6.</td>
<td>Goa</td>
<td>2095</td>
<td>3.00</td>
</tr>
<tr>
<td>7.</td>
<td>Gujarat</td>
<td>15152</td>
<td>20.00</td>
</tr>
<tr>
<td>8.</td>
<td>Haryana</td>
<td>1754</td>
<td>2.00</td>
</tr>
<tr>
<td>9.</td>
<td>Himachal Pradesh</td>
<td>14360</td>
<td>20.00</td>
</tr>
<tr>
<td>10.</td>
<td>Jammu &amp; Kashmir</td>
<td>21237</td>
<td>30.00</td>
</tr>
<tr>
<td>11.</td>
<td>Jharkhand</td>
<td>22637</td>
<td>30.00</td>
</tr>
<tr>
<td>12.</td>
<td>Karnataka</td>
<td>36991</td>
<td>55.00</td>
</tr>
<tr>
<td>13.</td>
<td>Kerala</td>
<td>15560</td>
<td>25.00</td>
</tr>
<tr>
<td>14.</td>
<td>Madhya Pradesh</td>
<td>77265</td>
<td>115.00</td>
</tr>
<tr>
<td>15.</td>
<td>Maharashtra</td>
<td>47482</td>
<td>70.00</td>
</tr>
<tr>
<td>16.</td>
<td>Manipur</td>
<td>16926</td>
<td>30.00</td>
</tr>
<tr>
<td>17.</td>
<td>Meghalaya</td>
<td>15584</td>
<td>30.00</td>
</tr>
<tr>
<td>18.</td>
<td>Mizoram</td>
<td>17494</td>
<td>25.00</td>
</tr>
<tr>
<td>19.</td>
<td>Nagaland</td>
<td>13345</td>
<td>25.00</td>
</tr>
<tr>
<td>20.</td>
<td>Orissa</td>
<td>48838</td>
<td>75.00</td>
</tr>
<tr>
<td>21.</td>
<td>Punjab</td>
<td>2432</td>
<td>2.00</td>
</tr>
<tr>
<td>22.</td>
<td>Rajasthan</td>
<td>16367</td>
<td>25.00</td>
</tr>
<tr>
<td>23.</td>
<td>Sikkim</td>
<td>3193</td>
<td>8.00</td>
</tr>
<tr>
<td>24.</td>
<td>Tamilnadu</td>
<td>21482</td>
<td>30.00</td>
</tr>
<tr>
<td>25.</td>
<td>Tripura</td>
<td>7065</td>
<td>15.00</td>
</tr>
<tr>
<td>26.</td>
<td>Uttar Pradesh</td>
<td>13746</td>
<td>20.00</td>
</tr>
<tr>
<td>27.</td>
<td>Uttarakhand</td>
<td>23938</td>
<td>35.00</td>
</tr>
<tr>
<td>28.</td>
<td>West Bengal</td>
<td>10693</td>
<td>15.00</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>668200</td>
<td>1000.00</td>
</tr>
</tbody>
</table>

Source: Twelfth Finance Commission, Government of India. New Delhi, 2004

A careful study of this table shows that in the Finance Commission grant area factor is probably the only consideration for grant allocation, cost of associated activities are hardly taken care of. Similarly 'ecological functions are not included directly in the fiscal transfers'. The cost of associated activities related to environmental sustainability is deem to be met through earmarked grant related to sewage disposal, water, agricultural development
etc. What is argued here is that in fiscal transfer eco-economics is yet to become an important factor for grant allocations to units. Merely area factor could not suffice the requirement of ecological economics.

Besides above, state specific need related to environment activities are shown in the following table.

**Table: 2 States Demand for Environmental Activities and Actual Allocation by FC-XII.**

<table>
<thead>
<tr>
<th>S. No.</th>
<th>States</th>
<th>Activities</th>
<th>Demand made by state (Rs.in crore)</th>
<th>Actual Grant made by FC (Rs.in crore)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Andhra Pradesh</td>
<td>Drinking water facility to floride affected area</td>
<td>500</td>
<td>325</td>
</tr>
<tr>
<td>2.</td>
<td>Bihar</td>
<td>Urban water supply and drainage</td>
<td>180</td>
<td>180</td>
</tr>
<tr>
<td>3.</td>
<td>Gujarat</td>
<td>Salinity in grass*</td>
<td>1000</td>
<td>200</td>
</tr>
<tr>
<td>4.</td>
<td>Haryana</td>
<td>Water salinity</td>
<td>523</td>
<td>100</td>
</tr>
<tr>
<td>5.</td>
<td>Kerala</td>
<td>Inland water ways &amp; canal, coastal zone management</td>
<td>436.92</td>
<td>400</td>
</tr>
<tr>
<td>6.</td>
<td>Meghalaya</td>
<td>Zoological park and Botanical garden</td>
<td>35</td>
<td>35</td>
</tr>
<tr>
<td>7.</td>
<td>Mizoram</td>
<td>Bamboo flowering</td>
<td>566</td>
<td>40</td>
</tr>
<tr>
<td>8.</td>
<td>Orissa</td>
<td>Eco-restoration work in the Chilka lake</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>9.</td>
<td>Punjab</td>
<td>Stagnant agriculture(soil erosion, water depletion, ecological degradation etc)</td>
<td>---------</td>
<td>96</td>
</tr>
<tr>
<td>10.</td>
<td>Rajasthan</td>
<td>Drinking water scarcity</td>
<td>295</td>
<td>150</td>
</tr>
<tr>
<td>11.</td>
<td>Tamilnadu</td>
<td>Sea erosion and coastal area protection work</td>
<td>169</td>
<td>50</td>
</tr>
<tr>
<td>12.</td>
<td>West Bengal</td>
<td>(i) Arsenic contamination of ground (ii) erosion by Ganga Padma river (iii) development of sunderban region</td>
<td>150</td>
<td>100</td>
</tr>
</tbody>
</table>

*Gujarat has a long sea coast line of 1600 KM which is about one third of total coast line of India. About seven lakh hectare of coast has lost its fertility due to salinity in grass.

What appears from the above table is that there exists great mismatch between demand and allocation.

**Calamity Relief Fund (CRF)**

Existing CRF is based on the recommendation of XI-FC. Earlier to CRF, Money Margin Scheme (MMS) was a financial arrangement for disaster relief. MMS was in practice from FC-II to FC-VIII period. While calculating CRF, FC-IX had considered average ceiling of expenditure which included money margin, advance plan assistance, special central assistance along with state's own share of ten year. The amount of CRF was calculated to be Rs 804 crore per year. Subsequently, Tenth Finance Commission had calculated this amount to Rs. 6304.27 crore for the period of 1995-2000.

CRF, maintained in the public account of the state, are used to meet the cost of expenditure incurred on ‘providing immediate relief to victim of cyclone, drought, earthquake, fire, flood, tsunami, hailstorm, landslide, avalanche, cloud burst and pest attack.’ 75 percent of the fund is financed by the centre and 25 percent by respective states. A state level committee headed by the Chief Secretary manages the fund. The size of the CRF released to a state is determined on the basis of past expenditure of the concerned state on calamity relief. However, the FC-XIII has recommended merger of CRF with SDRFs of the respective states.
National Calamity Contingency Fund (NCCF)

From time to time Finance Commissions have considered the issue of calamity of rare severity and acknowledged that central assistance be on higher side. The Seventh and Eighth Finance Commissions had recommended that center should provide additional assistance to the state undergoing calamity of rare severity. Ninth Finance Commission recommended that calamity of rare severity should be handled at national level and center should meet necessary expenditure in dealing with the calamity. However Tenth Finance Commission has recommended for a separate mechanism to deal with calamity of rare severity. It laid down that calamity of rare severity needed to be addressed on a case to case basis considering intensity and magnitude of calamity, level of relief assistance, capability of the state to tackle the problems, and other alternative available to the state. Tenth Finance Commission further recommended for setting up "National Fund for Calamity Relief" (NFCR) to be managed by National Calamity Relief Committee (NCRC).

However, FC-XI made drastic changes in the basic framework of NCCF. Based on this, the salient features of NCCF include the following:

i. It has a core corpus of Rs.500 Crore, replenished through National Calamity Contingency duty on consumer items like cellular phones, tobacco products etc.

ii. "It is maintained in the public account of the GOI."
iii. It is administered by a high level committee comprising the agricultural Minister, Home Minister, Finance Minister, and Deputy Chairman of the Planning Commission.

iv. The assistance from the NCCF is only for immediate relief and rehabilitation and not for any reconstruction of assets or restoration of damaged infrastructure.16

The XIII-FC has recommended for the merger of NCCF into the NDRF. Besides above two major funds for calamity relief and reconstruction, states also receive Additional Central Assistance (ACA) for post disaster reconstruction works. In the year 2008-09, a total of Rs. 645 Crore was released to 10 States under ACA for long term reconstruction of assets. The cost of disaster relief and reconstruction work is further supplemented through need based application of several critically sponsored schemes like MNREGS, Indira Awas Yojana. On an estimation about 10 percent of the cost of relief is managed through CSS.

States views on Disaster Finance

From the readings of memoranda submitted by states to different FCs (practically FC-XI, FC-XII and FC-XIII) states' views on disaster finance can be briefly summarized as the following;

(i) Current allocation does not cover the actual requirements of the states. Also, allocation criteria, based on history of expenditure, are unscientific and impractical. Allocation, argue states, should generally be based on actual of losses suffered, besides taking into
consideration such factors like periodicity of occurrences, cost of restoration, size of population and net area cover under disaster vulnerability.

(ii) In the existing practice, the expenditure over and above CRF is borne by the states, putting severe stress on states’ economy. It is therefore they want that this additional burden be also shared by center in the same ratio as that of CRF. They further demand ratio hike from the existing 75:25 to 90:10. "Most of the ‘special category’ states have expressed their inability to meet the states’ share and have advocate 100 percent central assistance. It has been suggested that the states, contribution to the CRF should be included in non-plan revenue deficit."¹⁷ States further demand carry over of CRF balance at the end of award period as a resource for plan expenditure.

(iii) States have consistently been demanding that list of calamity be enlarged to include “lightening, sea erosion, frost and heat/cold wave, bird flu, rodent attack, sunstroke and snakebite.”

**Fiscal Arrangement in Canada**

The fiscal arrangement in Canada has multifold objectives of ensuring equity, efficiency in the growth of national economy, and contribute to the growth of one common Canadian community which otherwise differs from
each other on many counts of identities. The last objective is directed towards making Canada one economic and political community on the basis of comparable level of developments. Another interesting feature of Canada’s fiscal arrangement is its emphasis on redistribution—a deliberate policy directed towards meeting the cost of many programmes of social union projects on a co-sharing basis. Robin Boadway identifies three types of redistribution “(i) counteracting ‘the unequal outcomes that are generated by the market economy; this is achieved through tax-transfer system (income tax and associated refundable tax credits); (ii) putting households on ‘even-playing field’, i.e. equalizing capacity to participate in the market; and (iii) compensating ‘households for misfortunes and bad luck; All the social insurance programmes fall in this category.’"^{18}

All re-distributive programmes, writes Boadway, “involve what might be termed community sharing. That is, there will be beneficiaries and contributors within the community in which the program is being applied, and in budgetary terms, the net contribution of the contributors will just equal the net receipts by the beneficiaries. If programs were fully national in nature, the sharing community would be treated identically regardless of their province of residence. On the other hand, if programs were fully provincial, the sharing community would be the province. All persons of given circumstance would be treated identically no matter where they resided in a given province, but they might be treated differently than like persons in different provinces."^{19}
Section 91 of the Constitution Act 1982 lists out the taxing competence of federal government to include public debt and property, interstate trade and commerce, regulation on employment insurance, money and banking, patents and copyrights and several items of direct taxes. Federal government has jurisdiction over personal income, corporate income, capital taxes, custom and excise duties, taxes on sale of goods and services (GST), real estate taxes, taxes on tobacco production and consumption and fuel tax. As a matter of fact, federal government, “can also use any form of taxation it chooses, and it is free to spend as it sees fit and it borrow and lend.” Most of the federal revenues are collected from three progressive sources: personal income tax, sales tax (GST) and payroll tax. Interestingly provinces also earn bulk of its revenues from these three sources. Besides, provinces earn revenue from taxes on property, hospitals, sale of public lands and other direct taxation within the territorial jurisdiction of the province. Provinces have competence over non renewable natural resources, forestry and electrical energy. Most of the provinces raise their revenue from taxation, personal and corporate income, corporate capital levy on sales tax, provincial sales tax, property taxes, mineral and natural resources, taxes on health and educational services, insurance etc.

So far as the revenue-efficiency of different field of tax is concerned, the following observation of J.F Tremblay is worth mentioning:
“First, the income tax field is occupied only by the federal and provincial governments, and represents over 60 percent of federal revenues and around 30 percent of provincial revenues. Second, consumption taxes are also used almost exclusively by the federal and provincial governments and correspond to around 20 percent of revenue at both levels. Third, property taxes are the main component of own-source revenues of local government and school boards. They account for about two thirds of local own-source revenues and 80 percent of school boards own source revenues. It is important to note, however, that own source revenues represent only about 60 percent of local total revenues and less than 30 percent of school boards revenues. Finally, contributions to social security plans account for about 10 percent of federal revenues, while the sales of goods and services generate 15 percent of local revenues.”

In Canadian federalism we find a wide variation in own source revenue of provinces. The richest province Alberta mobilizes about 90 percent of its total.

Federal Transfer

So far as federal transfer is concerned, we find four broad types of transfers-Canada Health Transfer (CHT), Canada Social Transfer (CST), Equalisation Transfer (ET), and Territorial Formula Financing (TFF). The first two modes of transfers are purpose specific, dealing broadly in the areas of health, post secondary education and other sectors of social security schemes. CHT is a federal transfer provided to provinces and territories in support of health
care. It is provided through cash payments and cash point transfers. Such transfer is subject to fulfillment of five points conditions as laid down in Canada Health Act. The criterion of public administration as set out in section 8 of the Act is applicable to health care insurance plan "the intent of the public administration criterion is that the provincial and territorial health care insurance plans are administered and operated on a non-profit basis by a public authority, which is accountable to the provincial or territorial government for decision making or benefit levels and services, and whose records and accounts are publicly audited." The criterion of comprehensiveness requires that the health care insurance plan must cover all insured health services provided by hospital, physicians and dentist. Universality criteria provides that all insured resident of a province should have equal access is guaranteed under whom jurisdiction when an insured person move from one province to another province. This is being called the pot-ability criteria. The last criterion of accessibility provides for the reasonable compensation to health service provider.

On the other hand the CST is a federal block transfer to provinces and territories in support of social assistance and social services, post-secondary education and programmes for children. To these effect different federally supported programmes are conducted on a nation-wide basis, for example, The Universal Child Care Benefit is a new federal program to provide direct financial assistance to families to support child care choices. Subsection 36(2) of the Constitution Act 1982 writes "Parliament and the government of
Canada are committed to the principle of making equalization payments to ensure that provincial governments have sufficient revenues to provide reasonably comparable levels of public services at reasonably comparable levels of taxation.” Federal Department of finance states the objective of equalisation transfer in the following words: “the equalization and Territorial Formula Financing (TFF) programs provide unconditional transfers to the provinces and territories. Equalization enables less prosperous provincial governments to provide their residents with public services that are reasonably comparable to those in other provinces, at reasonably comparable levels of taxation. TFF provides territorial governments with funding to support public services, in recognition of the higher cost of providing programs and services in the north.” As a matter of fact, equalization transfers ‘enable less prosperous provincial governments to provide their residents with public services that are reasonably comparable to those in other provinces, at reasonably comparable levels of taxation.’

Equalization transfer is formula based where RTS (representative tax system) and '10 provinces standard' approaches are followed to assess the fiscal capacity of the provinces. “For each of the many revenue sources used by the provinces (thirty-three in number), each province’s per capita equalization entitlement is calculated using a simple formula: \( E = t (B-b) \), where \( t \) is a national average of all provincial tax base, and \( B \) is the per capita tax base used for five representative provinces. This is repeated for each province and each revenue source. Then each provinces aggregate
equalization entitlements are obtained by summing up its entitlements from all revenues sources. Those provinces with positive aggregate entitlements receive a transfer equal to their entitlement. Those with negative agreements entitlements receive nothing. In other words, equalization entitlement is equal to difference in fiscal capacity of a province with average of 10 provinces fiscal capacity. The principle of associated equalization is followed for partly finance the CHT and CST programmes. Recently the government of Canada is linking equalization to moving average of three years of gross domestic product (GDP) in order to ensure stability and predictability in national economy as well as protecting provinces against any reduction in equalization transfer.

While equalization aims at financing provinces, the Territorial Formula Financing “is an annual unconditional transfer from the Government of Canada to the three territorial governments to enable them to provide their residents a range of public services comparable to those offered by provincial governments, at comparable levels of taxation. TFF helps territorial governments to fund essential public services in the North, such as hospitals, schools, infrastructure and social services, and recognizes the high cost of providing public services in the North as well as the challenges the territorial governments face in providing these services to a large number of small, isolated communities.” As a matter of fact, TFF is gap-filling formulas in order “to recognize the unique circumstances of each of
the territories. Each territory's grant is based on the difference between a proxy of its expenditure needs (the Gross Expenditure Base, or GEB) and its capacity to generate revenues (eligible revenues). Each territory's GEB is adjusted annually to ensure that territorial spending can grow in line with changes in relative population growth between the territories and Canada and changes in provincial-local government spending.\textsuperscript{27} RTS formula is applied to decide the net amount of transfer. TFF generally takes into account the net of revenue generated by each territory from tax collection.

**Financing Environmental Programmes**

So far as fiscal dynamics of environment management is concerned, it is managed on the basis of cost-sharing vertically and horizontally. Federal government has created "Green Infrastructure Fund", total budget outlay for this fund between the fiscal year 2009-10 and 2010-11 was 200 million $ per annum, which attempts to make targeted investment in the environmental sector on a sustainable basis. Broadly different energy programmes such as air quality management and regulation on carbon emission are financed under this fund. Similarly water and waste water products for First Nations are administered on a cent percent basis by the federal government. In order to generate critical mass of knowledge on environment infrastructure, universities and colleges are strengthened. This is a kind of supplementary grant provided to educational institutions of provinces and territories. Fund under this initiative is managed under head
Industry Canada. As it is project based grant only, 50 per cent of the cost of project is met by federal government.

Departmental outlay for plan-spending for two fiscal years for the sector environment and resource based programmes are as follows

Table: Environment and Resource-Based Programs

<table>
<thead>
<tr>
<th>Departments</th>
<th>Main Estimates</th>
<th>Change in Spending</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2009-10</td>
<td>2008-09</td>
</tr>
<tr>
<td>Agriculture and Agri-Food</td>
<td>2,649,600</td>
<td>2,569,578</td>
</tr>
<tr>
<td>(a) Canadian Dairy Commission</td>
<td>3,721</td>
<td>3,672</td>
</tr>
<tr>
<td>(b) Canadian Food Inspection Agency</td>
<td>572,045</td>
<td>575,563</td>
</tr>
<tr>
<td>(C) Canadian Grain Commission</td>
<td>5,197</td>
<td>5,213</td>
</tr>
<tr>
<td>Environment</td>
<td>992,583</td>
<td>957,526</td>
</tr>
<tr>
<td>(a) Canadian Environment Assessment Agency</td>
<td>32,049</td>
<td>34,456</td>
</tr>
<tr>
<td>(b) National Round Table on the Environment and the Economy</td>
<td>5,134</td>
<td>5,154</td>
</tr>
<tr>
<td>(c) Fisheries and Oceans</td>
<td>1,641,516</td>
<td>1,681,992</td>
</tr>
<tr>
<td>Natural Resources Department</td>
<td>3,639,905</td>
<td>2,342,873</td>
</tr>
<tr>
<td>(a) Atomic Energy of Canada Limited</td>
<td>108,691</td>
<td>152,273</td>
</tr>
<tr>
<td>(b) Canadian Nuclear Safety Commission</td>
<td>142,731</td>
<td>90,180</td>
</tr>
<tr>
<td>(c) National Energy Board</td>
<td>44,380</td>
<td>46,168</td>
</tr>
<tr>
<td>(d) Northern Pipeline Agency</td>
<td>264</td>
<td>265</td>
</tr>
<tr>
<td>Total Program Spending</td>
<td>9,837,816</td>
<td>8,464,914</td>
</tr>
</tbody>
</table>

Source: www.tbs-sct.gc.ca/est-pre/2009-2010

At the provincial level, government has established department and ministries to manage environmental issues. Alberta has a Ministry for
Environment which looks after the different issues of environment. In its budget for 2010 Alberta has given due importance to environmental concerns as it underlines different targets such as sustainable development of energy resources, strategy for climate change, and cumulative effect management by proper implementation of Alberta’s land use framework and so on. There are four major resources which provide revenue to environmental activities namely:

(i) *Internal Government Transfers (3175 Th. of $)*

(ii) *Transfers from Government of Canada (51967 Th. of $)*

(iii) *Premiums, Fees and Licenses (5725 Th. of $)* and

(iv) *Other Revenues*

Newfoundland and Labrador has a department of Environment and Conservation. In fiscal year 2009-10 it has allocated $ 62, 467, 00 for expenditure on environmental governance. The federal government is providing financial assistance in various activities such as $ 16,096000 for policy development and planning on environment, $ 200,000 for water resource management, and $ 50,000 for environmental assessment etc.

New Brunswick has established Environment Trust Fund providing financial assistance for action oriented projects with tangible and measurable results aimed at protecting and preserving province’s environment.

Prince Edward Island has allocated an amount of $ 160,000 to the department of Environment, Energy and Forestry in the year of 2010-2011.
what is being shown above is that unlike Indian states, Canadian provinces have well developed financial mechanism to meet the cost of environmental governance.

**Disaster Financial Assistance Arrangements (DFFA)**

Disaster Financial Assistance Arrangement (DFFA) has been designed by the federal government to financially assist a province in case if it's per capita expenditure crosses a particular limit while managing natural disaster. DFFA aims to assist provinces to get back to their routine life after the disaster. Public Safety Canada, a federal government department, has developed guidelines for the administration of the federal disaster financial assistance arrangements.

The central objectives of DFFA includes

I. to restore the basic necessities of life to rehabilitate them properly.

II. to assist the small business houses in the provinces so that economic activities can run smoothly.

III. to restore the community services such as drinking water, and sanitation.

IV. to make provision for negative activities so that vulnerability and destruction can be reduced in future.\(^2\)

Under the above objectives DFFA provides for a cost sharing mechanism, that in the first instance the provinces should meet the cost of disaster management to its revenue-capacity, and left over cost shall be met by the DFFA. However, for the First Nation, the entire cost is borne by federal government.
For disbursement of fund released by DFFA, two fold eligibility criteria have been laid down. First, is the public sector expense criteria, which provides for meeting the public sector expenses including expenditure on road restoration, damage repair and other administrative expenses. Second criterion is known as private sector expense eligibility criterion. It provides that when a disaster strikes and provinces cross its threshold on financial assistance on individual, small business and farm related activities then DFAA provides financial assistance on cost sharing basis. The various subjects under private sector expenditure include assistance to individual including repair of home, small business activities and expenditure incurred on farm related activities such as livestock restoration etc.

However it should be always kept in mind that DFAA covers only high intensity disaster. It does not apply to a disaster having impact only on single economic activity. It also does not cover any health epidemic or armed conflict, terrorist menace, or fire in prairies and forest unless they require for pre-emptive action on large scale.

Under DFAA guidelines, financial assistance to province are not provide on any absolute basis, rather it is relative to per capita expenditure incurred by the province on individual to manage natural disaster. The threshold limit for province is $1 per capita on provincial population if this threshold is increased then province get cost sharing by federal government under DFAA. The cost sharing under DFAA is given table -2
Cost Sharing Formula

<table>
<thead>
<tr>
<th>Eligible Provincial Threshold (per capita population)</th>
<th>Federal Government Share (percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>First $1</td>
<td>0</td>
</tr>
<tr>
<td>Next $2</td>
<td>50</td>
</tr>
<tr>
<td>Next $2</td>
<td>75</td>
</tr>
<tr>
<td>Remainder</td>
<td>92</td>
</tr>
</tbody>
</table>

Source: *Guidelines for the Disaster Financial Arrangements, Government of Canada*

What appears from above analysis is that Canada follows progressive cost sharing formula to meet the cost of environmental governance. Provinces own revenue efforts are much ahead than their Indian counterparts. This is also probably because environment gained considerable attention only during FC-IX. However, both polities are gradually moving towards a pooled together view of fiscal federalism so far as cost management of environment is concerned. Both apply macro financing and micro budgeting to meet the cost of environment. Net federal allocation largely depends on the tax-progression. Part of the cost is managed through public-private partnership as well. Micro financing is scheme specific, where overall emphasis is placed on community capacity building in order to pre-empt or reduce the risk of disaster, and post disaster reconstruction.
Endnote


2 Ibid.p.115.

3 Ibid.pp.117-118.


5 Ibid.p.294.


9 Ibid. p. 235.


15 Ibid.p.164.


17 Ibid.p.193.


19 Ibid.p.58.


22 www.hc-sc.gc.ca/hc-sc.


24 www.fin.gc.ca.


26 www.fin.gc.ca.

27 www.fin.gc.ca.


29 The premiums are deduced on a current bi-weekly basis from the employee’s bi-weekly salary. For more details see www.chr.alberta.ca.


31 http://app.infoaa.7700.gub.ca.


33 Ibid.
CONCLUSION

Intrinsic value of federalism has been explored throughout the present work, and its efficacy in terms of environmental governance has been modestly attempted. Different theories of federalism such as legal, sociological, spatial and political have been analysed to show the relevance of federalism in solving some of the complex issues of human society including environment. It is being asserted that federalism as grand design of 'peace', 'living together' and as mode of 'self-rule plus shared-rule' has been relatively successful in responding to crises. Federalism has responded crisis in a different way and it facilitated the coming together of people from different region, religion, language and ethnicity to share the resources in a peaceful manner. Federalism cannot be confined to limited doctrinal view. It is a philosophy of accommodation, details of which are always evolving.

India and Canada have opted federalism after careful considerations. In both polities, it has been adopted to hold together opposites. In several respects both represents some kind of similarity. They have their federal lineage from British Colonialism. Colonial master had applied Parliamentary federalism in India after its success in Canada. Federalism with parliamentary accountability sums up the Indo-Canadian model of federalism. In this framework 'Union' comprising of
federal and provincial governments, is all-powerful, integral and organic.

Power tilt in favour of central government is mainly to ensure unity and integrity of the federation. Union model seeks to create one social union, one economic union, and a value sharing political community. Union is marked by simultaneity of centralisation and regionalisation processes. Power-distribution is always context specific and in accordance with role-assignment. One finds differential loadings. The objective is to achieve governance with efficiency. The issue of environmental governance is case in view.

However with so many similarities there exist some differences as well. Executive federalism is a commendable feature of Canadian federalism where differences are administratively and politically negotiated. It is the strength of negotiation that Canada has gradually evolved as a model of collaborative federalism. Collaboration is both informal and rule based. Comparatively, in India structure of negotiation is mostly legal-constitutional, and judicial. Executive-administrative instruments are yet to develop as a distinct Indian model centric approach to Indian federalism. Executive mechanism lacks adequate sanction of application. Despite differences on these counts two polities constitute a leading example of Union model view of federalism, best applicable to
societies marked by extensive ethnic, cultural difference, regional economic disparities and other political differences. The strength of the model lies in its dynamism to shape up or mould power-distribution according to the nature of crises. Two polities have responded successfully to need for environmental governance. It is governed through a mix of centre-periphery model and matrix arrangement of role, functions and responsibilities.

One does not find any single generic entry applicable to the governance of environment. It is governed through variegated entries like forest, water, wild animals, energy, natural resources etc. It is probably the reason that we find not but multiple instruments of legislations and institutions. Largely, rule-making authority belongs to federal government. However, states have been granted high degree of executive autonomy to give shape to central policy on environment. Various boards and, regulatory authorities have been constituted to attend to different subject specific variables of governance. Concentration of larger authorities of policy making in the federal government is also mainly because environment falls in the category of 'public' having transboundary impacts. It is established federal principle that all matters of general public importance and inter-regional, and international ramifications be assigned to federal government. Success of policy and achievements of goals largely
depends on the modes of decentralisation and accommodation of local initiative, skills and resources in an otherwise national framework. Relatively Canadian provinces have more policy-autonomy than Indian states. States in India largely follow central guidelines. This is also partly because states are resource deficient.

Similarly in Canada, there is a cooperative framework for disaster management as centre, province and municipal government together frame the national disaster mitigation strategy. On the other hand, disaster management is a late entry in Indian federalism and it has evolved in a centralized framework as Centre provides framework legislation and states have to enact the conformity legislation. National disaster management authority is the apex body that provides direction to state agencies for managing disaster. Further Indian federalism lacks the statutory participation of institution of local self-government. In the context of disaster; Indian federalism appears to be more centralised than Canadian system. This generalized conclusion is also true in the case of hazardous waste management.

Fiscal competence is one of the important dimensions in managing environment in a federal country. In both federations federal governments have been endowed with extraordinary financial resources. As a consequence, state/provincial governments largely
depend on federal assistance for cost management of environment. This is the grey area where both polities have to revisit their public finance system. Good governance requires that as far as possible resources be also locally managed to meet short-term exigencies. Infrastructure deficiency cannot serve the cause of a sound environmental management.

So far as the legal text on the governance of environment is concerned it is principally preventive in nature but fails to adequately address the question of sustainable development. A balance is yet to be worked out between human needs, resource availability and economic growth. It is true that both polities have sustainable development as their principle goal of development, but institutional structure doesn't confirm to the need of sustainable development. We need to have a people's perspective of environmental governance and development. This perspective demands that people do not need to be regulated only but their active support is needed for. It is a commonplace understanding that any environmental public policy is to promote common good involving promotion of human welfare and protection of the nature. Economic policies need to be fine tuned to promote human resources and capital growth without affecting changes in the eco-system. Any policy on environmental governance should promote a socio-political perspective where four stages of policy formulation such as recognition,
formulation, implementation, and control are collectively managed by the government and the public. This cannot be done without federalising the structure of policy making with a view to promote equity, efficiency and effectiveness. Cost of policy should be met by a pooled together view of fiscal federalism. As of now, we find that environment is being governed through a mix of legislative centralisation, executive decentralisation and fiscal or financial decentralisation. Two polities have yet to develop a noncentralised perspective of federal governance of environment.

As a matter of fact in a federal polity environment governance requires a matrix arrangement of self and shared governance. However in the first instance, as stated above, there is urgent need for noncentralisation of rule making and policy formulation based on the principle of equated capacity and responsibility of different state actors. In both polities provincial units demand more and more autonomy and competence in order to address the local concerns of the environment management. In Canada, local governments are subjects of provincial competence, therefore different provincial municipalities acts provide different degrees of decentralization, hence there is a strong demand for constitutional backing of local government as it would bring a conditional division of power and self rule to the large municipal areas in Canada. In this regard, the Royal Commission has also
recommended for assigning constitutional status to Municipal
government.

Present environmental policies are more punitive in orientation. There
is need to revisit existing environmental policies in order to
accommodate new challenges. Environmental policies should be largely
preventive than punitive. Besides, in order to promote decisional
autonomy at the execution level, there is urgent need of
deconcentrating the structure of decision making at different ends.
Procedural mechanism as shown during the content analysis of
different environmental acts is too tedious to facilitate effective
governance of emergent environmental challenges. Existing mode of
client-patron environmental management hardly promotes any adaptive
mechanism with in-built flexibility of governance. Adaptive
management requires a blend of federal-constitutional perspective on
competence distribution, and managerial skills of desk adaptability
involving close partnership between state and society. The current
practice of selective response to individual environmental challenge is
not going to serve the cause of safe and sustainable environment. We
need to have holistic view of preventive and protective environmental
management which is both participatory and noncentralising in terms
of governance.
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