

Note: This is a modelling, done based upon analysis of existing facts and evolving reasoning, as to how the 'Government' and 'Constituents of Governance' are likely to behave and function 'influenced by normal human attributes' under different 'probable conditions' and does not imply projection or criticism of 'any particular government system in the world'. Any explanation in this 'coinciding with any working Government system' shall be an unintentional coincidence only.

Bottleneck model

FFF- Free fall flow; ARF- Angle restraining flow; BNV- Bottleneck value;

A bottle has a wide body which contains the fluid and has a narrow section above it which is normally called bottleneck. This term is commonly used as a phrase and the **term bottleneck is very commonly used associated with an obstruction hurdle**. Why this characteristic of a bottle has got such an important reference value?

The flat and wide portion at the bottom of a bottle contains fluid. When the bottle is put upside down to extract the fluid from the bottle it is the bottleneck which prevents the free flow of fluid from inside to outside.

As the intention is to correlate the bottleneck model with progressive growth and development PGDM of a society for a government set up, the term free flow since being conclusive for positively of freedom, a fundamental right, the term Free Flow is replaced with 'free fall flow' **FFF, which represents the exact behaviour of fluid flow in uncontrolled manner** when bottle is made upside down. Thus it is bottleneck function to control probable uncontrolled flow. **It seems that the function of bottleneck is positive and regulatory and necessary to control uncontrolled flow** (or behaviour). If we study this simple aspect carefully it would reveal very interesting analogy. Let us discuss about it.

With a wide base down, the bottle is stable and at rest and there is no energy flow. In this form the bottle may remain in the same state whatever extent of time, it would **remain as it is, unaltered, indifferent and not contributing anything**. There is no energy flow and no life. Now let the bottle be tilted and the fluid would start moving slowly towards outlet but still not flowing out. At a point the fluid would be just at outlet and any further tilting would cause fluid flowing out. **Let us define this angle as 'angle restraining flow' ARF. Up to this point the bottleneck is regulating**. Any further tilting of bottle would cause fluid to flow outside. We tilt the bottle further but the flow of fluid would not correspond to the amount of tilting. **The flow of fluid is now restricted and restrained by bottleneck and bottleneck applies this restriction by applying 'obstruction'.**

Let us carefully analyse it. Before ARF, every part of fluid was affected and displaced equally whereas **in FFF state the bottleneck is causing 'obstruction' to a part of fluid only (fluid in the bottleneck) and its behaviour is not uniform and equally applicable** to every part of the fluid. **The fluid which has been 'obstructed' by the bottleneck, prevents other part of fluid at the back of it, to flow freely**. This is the bottleneck phenomena of preventing free flow or 'maximum flow' by causing obstruction.

Regulation is when each part of society is restrained and affected equally. **Bottleneck is when flow of energy is restricted by causing 'obstruction' in flow to 'some' or a 'part' which would result 'obstruction' to the 'the whole lot'.**

This is a significant and very meaningful outcome. Analyzing it further, the fluid in the bottleneck, under compulsion due to 'internal reasons' and/ or 'external reasons' not to exhibit 'efficiency' and 'outcome' corresponding to 'free flow' and thus exhibiting 'low efficiency and outcome', would cause 'subsequent obstruction' to the 'whole civilization and society'. Let us call this part of fluid in the bottleneck portion as 'obstruction by default' OBD. Thus, **whenever and wherever, the condition of 'maximum efficiency' is to be fulfilled, the identification of OBD and visualizing necessary corrections, must be the first action to be taken. Thus this must be 'most important' aspect to be examined at the initial stage which is the 'planning stage'.** It signifies that every proposal, plan, action would have 'inbuilt OBD which must be studied, evaluated to 'quantify' the extent of BNV.

The OBD is to be studied with planning and while in action 'as a concept' and BNV is the actual 'measurement' of OBD.

Let me try to put up bottleneck in mathematical term. Let the free flow within bottleneck FFF value is F and the flow under bottleneck phenomena is WF , where W is less than one. So F is the maximum attainable flow and WF is actual flow. On the road if the maximum permissible speed is 100 kmph and the actual average speed is 40 km per hour, the bottleneck value is $(1 - 40/100)$ which is equal to 0.6.

If the aim of an education system is to make people intelligent, all people would get a reasonable average score in the examination. Using the standard deviation curve, we understand that the probability of acquiring a state by various objects is 70%, we keep the level of average score at 70%. People should get 70% in examination however if the average score is 40% the "bottleneck value" BNV is equal to $(1 - 40/70)$ which is equal to 0.43.

If in the entrance examination of Medical College after high school certificate, immediately after passing the examination, students appeared in the entrance examination and 25% goes above the the average percentile the BNV is $(1 - 0.25)$ which is equal to 0.75.

Thus separate from the term regulation, bottleneck is different and signifies an act of causing 'obstruction'. In government's functioning, the benefit of government's governance must get distributed equally to all citizen. Any disparity in the social and economic status of citizen, region wise or any group wise, would exhibit BNV in the execution of government's governance. A human being have basic needs as food, shelter and clothing, the positioning of different sections of citizens in respect of availability of good quality of food and drinking water, quality of day-to-day clothing and dwelling environment would exhibit BNV in the governance system.