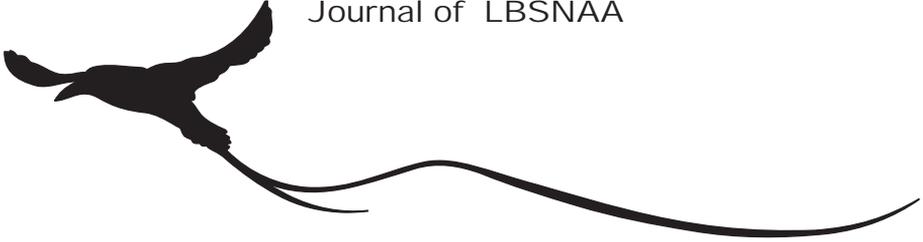


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# Life Cycle Costing in Defence Acquisition: The Challenges of Transforming Complex Aspirations into Factual Ground Realities

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## Abstract

*Life cycle costing (LCC) is an extremely appealing procurement technique for government contracting professionals in developing countries, given its seductive promises for reducing budgetary outgoes through lower total cost of ownership during the entire life cycle of procured public assets. However, proper implementation of LCC in a public procurement context inherently requires strict cost visibility, verifiability and contracting discipline by both contracting parties during comparative evaluation of proposals as well as during contract administration and implementation, which make it an extremely difficult and challenging process particularly in developing countries where the acquisition workforce may not be as skilled and where the legal systems may not be as responsive and as professional as in developed country jurisdictions. Within this background, this short note explores certain LCC techniques employed under India's defence procurement procedures, while also attempting quick comparisons with NATO, US and Canadian guidance on the subject. The underlying intent is for using rigorous academic analysis for the purpose of formulating recommendations for suitable reforms in India that could perhaps also be useful for other developing countries interested in implementing LCC-based procurement for obtaining effectiveness and efficiency in their defence acquisition programmes.*

## Introduction

On last count, the Indian Air Force (IAF) was pursuing at least three extremely high-value global procurement cases based on “Life Cycle Costing” (LCC)—a procurement technique that is universally recognised as perhaps the most complex and challenging anywhere in the world, particularly when applied in a public procurement context . And yet, as analysed in this short paper, the IAF's Model seems to clearly conflict important requirements contained in India's Defence Procurement Procedure (DPP) that governs capital acquisitions by the Ministry of Defence (MoD). What could be equally problematic are serious differences between the IAF's Model and international best practices on LCC , particularly since the IAF adaptation was reportedly inspired by international practices on LCC-based defence acquisition . As examined later in this paper, critical deficiencies in the IAF's Model include: (i) reliance on an extremely narrow set of cost-elements in the IAF's Model for best-offer or (L1-vendor) determination as compared to international best practices(as well as DPP requirements) on the

full range of elements covered by life cycle costs, a situation that would most likely lead to misleading estimates used for contract award; and (ii) absence of any meaningful contractual provisions under the IAF Model that could be capable of motivating successful contractors to actually deliver stated or better-than-stated cost performance at the time of contract execution vis-à-vis their promises on support, operational and upgrade costs, if any, made at the time of bidding or during contract negotiations, thus potentially resulting in long-run inflation of contract costs borne by the MoD as already being witnessed with cases of incomplete contracts in non-military procurement in India, while also overturning LCC-based L1-vendor determination that would have been used to select the successful contractor in the first place.

Given that poor procurement processes—prior to contract award or in terms of post-award contract administration—are generally recognised as a major determinant of cost and time overruns in military procurement worldwide, this short academic paper explores the existing framework for LCC-based defence acquisition in India practiced by the IAF, as well as its comparative evaluation with certain international best practices, viz. NATO, US and Canadian defence acquisition practices. The underlying objective of rigorous academic discussion presented herein is for assisting policy-makers in charting a clear path for suitable procedural and substantive reforms, as the existing contracting methodology that has hitherto been adopted may be largely incapable of protecting India's strategic and policy interests in terms of cost-effectiveness, contract efficiency and sustained indigenisation in military procurement.

#### An Outline of LCC under the IAF Model and under the DPP

The IAF is required to follow normal DPP provisions for defence acquisitions of a capital nature, tempered suitably with case-specific relaxations permissible with the approval of the competent authority—the Defence Procurement Board (DPB) in some cases, and the Defence Acquisition Council (DAC) in most. As a result, the existing guidance in the DPP on LCC-based procurement merits a first look for understanding how LCC-based procurements are progressed by the IAF.

By itself, even though short on details, the DPP contains broad and invaluable guidance on LCC-based procurement; for instance, paragraph 15 of the “Guidelines and Conditions for Establishing Maintenance Infrastructure with an Indian Firm” require an Original Equipment Manufacturer (OEM, a term left undefined in the main text of the DPP) to provide all details like (emphasis added) operating cost, maintenance cost, overhaul cost, training cost etc. (emphasis added) per squadron of aircraft required to estimate the LCC of an aircraft, while paragraph 15(d) of the “General Guidelines for Transfer of Technology (SKD/CKD/IM Kit-based Manufacturing)” require submission of factors such as (emphasis added) operational hours/ year, MTBF, requirement of maintenance spares, mandatory replacement during preventive schedules etc. (emphasis added) that may be considered for arriving at LCC. Clearly, even the two DPP

formulations are neither exhaustive nor fully harmonised, the intent under the DPP clearly is for including all relevant costs such as spares, repairs, maintenance, foreseeable upgrades and modifications to arrive at overall life cycle costs for use during L1-vendor determination and subsequently for contract administration.

In actual practice, however, the IAF's Model talks of a "Total Cost of Acquisition" (TCA) that includes only seven cost elements : (i) the "Direct Cost of Acquisition" (DCA); (ii) Cost of "Total Technical Life" (TTL)-based reserves; (iii) Cost of "Time Between Overhauls" (TBO)-based / "Mean Time Between Failures" (MTBF)-based reserves; (iv) Cost of inspection-level servicing; (v) Cost of repair-level servicing and overhaul; (vi) Basic Operating Costs; and (vii) Cost of "Transfer of Technology" (ToT). The last element—ToT Costs—was apparently used only in the first TCA case by the IAF, being a "Buy & Make with ToT" category acquisition case; and ToT costs were included thereafter, the successive cases perhaps being outright global purchases under "Buy (Global)" category. It also appears that the Cost of MTBF-based reserves was also discontinued after the first TCA case by the IAF for reasons such as "non-complexity" of platforms and fewer numbers and locations of usage—although neither ground for exclusion of MTBF-costs finds any supporting international best practices on LCC-based defence acquisitions.

It is not clear if "LCC" as defined under the DPP and "TCA" defined under the IAF Model are identical, since no information is available in the public domain on the definitions and scope of any of the seven cost elements of the IAF Model. Prima facie, the IAF's TCA Model does not seem to unambiguously include all relevant spares and upgrade costs into account while computing LCC/TCA for selecting a platform/ weapon system on offer amongst competing bids, and to make matters worse, it also does not bind the successful contract or to costs of any of the spares (whether TTL-based or TBO-based or MTBF-based) while finalising contracts in actual practice : a situation that could potentially conflict with the overall regulatory framework contained in paragraphs 15 and 15(d) of the DPP. In fact, this IAF practice on non-binding spares' costs could also be in conflict with another standard DPP-requirement under which an OEM needs to mandatorily provide a base price along with an escalation formula for future supplies for slab quantities against proprietary items which s/he may intend to discontinue at any stage of the contract, as also in conflict with yet another mandatory DPP requirement entrusting a *Contract Negotiation Committee* (CNC) to finalise "life-time purchases" (which should necessarily include spares' purchases) together with an illustrated (not "illustrative") spares price catalogue with base price and pricing mechanism for long-term purchases.

Further, the non-inclusion of cost of upgrades while selecting L1-vendors based on TCA calculations seems to conflict with various important provisions of the DPP, given that the latter at various places requires one or more of the following: (i) complete technical documentation in respect of all proprietary items to be made available to the Indian Production Agency (IPA) to enable indigenous manufacture or establish alternative routes for meeting military requirements, in case the OEM intends to discontinue the production of any proprietary items at

any stage ; (ii) a base price for proprietary items which an OEM intends to discontinue manufacturing at any stage of the contract, along with an escalation formula for future supplies for slab quantities ; (iii) finalisation by CNC with successful contractor issues of obsolescence management, life-time purchases and assured technical documentation (information) on product/technological improvement, modifications and upgrades .Traditionally, obsolescence management in such long-term contracts necessarily includes foreseeable upgrades and modifications, and therefore, the IAF practice of excluding cost of upgrades for L1-vendor determination or for contract placement, notwithstanding the standard DPP-requirement for obsolescence management to be specifically addressed during CNC proceedings could be problematic.

In terms of actual practice, the IAF seems to merely require the vendor to be bound by an “adequacy of spares” clause and a “buy back clause” in case of under- or over-assessment of required spares , but these clauses cover only the spares’ availability issues, without enforcing binding costs of spares on successful contractors. The latter costs are apparently governed by a “mutual negotiations” clause, stating that subsequent revenue contracts (for spares, consumables and such like) would be mutually finalised (i.e. negotiated between the buyer and the seller) on the bases of reference costs and escalation formulae contained in the initial bid . Thus, rather interestingly, the actual contract signed by the MoD is not required to contain any clause binding a supplier to the costs stated in its bid—a practice quite unusual in public contracting since in any case, “low bias” estimation of operating and support costs is a recurring and well-known feature of defence acquisitions worldwide .

Another interesting twist in the IAF’s TCA Model is that while seven/five costs elements are used for determining the best-offer or (L1-vendor determination), the actual contract signed with the successful vendor only includes binding costs vis-à-vis the first cost element, i.e. the direct costs of acquisition (DCA) . This difference between the basis for L1-vendor determination and the binding costs in concluded contracts could nullify the entire effort made by CNCs during contract negotiations, since firstly, MoD would not be protected against subsequent cost-deviations by the successful contractor to any of the non-DCA costs elements; and secondly, such post-award costs deviations could fundamentally alter the sequencing of L1-L2-L3 vendors undertaken by the CNC for selecting the successful contractor, raising concerns and attracting easy allegations about lack of probity and robustness with CNC proceedings.

Given that a platform or a weapon system, once procured, would not work with any given spares, ammunition or consumables, and given that the IAF would necessarily have to revert to the incumbent contractor for upgrades and modifications in the absence of acquisition of any intellectual property rights in the platform/ weapon system, the IAF may therefore be unlikely to wield any practically-worthwhile negotiating strength qua (incumbent) successful contractors that could enable the IAF to arrive at a realistic pricing structure for

spares, consumables, repairs, upgrades or modifications. Essentially therefore, under the IAF's TCA Model, the buyer would really have no option other than being forced to obtain these services subsequently as artificially inflated costs in the absence of any real negotiating strength, once a platform or a weapon system has been acquired, and once the buyer has been locked-in to using that platform or weapon system for decades altogether.

### International Best Practices on LCC-based Defence Acquisition

Amongst international LCC frameworks, the NATO, the US and Canada use LCC-based defence acquisition extensively, although the technique is generally applied *within a cost-reimbursement framework with domestic suppliers*—a situation that vastly differs from Indian applications where LCC has instead been applied to large-scale, long-term and inherently-changing defence contracts with foreign suppliers. As shown later in this note, the choice of a whittled-down LCC, as applied by the IAF to long-term and global defence contracts, could therefore fail to yield equally satisfactory results on cost-effectiveness, contract efficiency and sustained indigenisation in military procurement as have been witnessed in other jurisdictions.

#### a. NATO's Executive Guidance on LCC in Defence Acquisition

NATO provides extensive guidance on the role of LCC in defence acquisition, particularly in form of TR-SAS-054—*Methods and Models for Life Cycle Costing*, and applies LCC for a variety of purposes such as: (i) budgeting and future spending forecasts; (ii) examining comparisons between alternative solutions such as in-house manufacturing versus outsourcing or choosing between “make” and “buy” procurement decisions; and (iii) supporting the tender evaluation process in procurement situations. LCC under these regulations is essentially defined in terms of “Program Life Cycle Costs” (PLCC) and includes initial construction costs, sail-away costs, design and development costs, software and technical data costs, support and training equipment costs, *initial (shore-based) spares' costs*, facility construction costs, *operation and support costs (including planned upgrades)*, load-out items' costs, and disposal costs. NATO guidance also talks of “Total Life Cycle Costs” (TLCC), which is the sum of PLCC and linked indirect variable costs such as manpower recruiting, acquisition and training costs; and “Total Ownership Costs”, which is the sum of TLCC and linked indirect fixed costs such as common support items and systems, as well as infrastructure costs for planning, managing, operations and execution.

For use in competitive or single-source procurement, NATO requires complex LCC methodologies to be used during initial procurement of a weapon system, as well as while developing contractor logistic support contracts, particularly recognising: (i) the need for developing extensive cost databases; (ii) identifying the types of studies to be undertaken at various stages of the contract; (iii) clearly identifying elements of contract pricing; and (iv)

mechanisms for strict evaluation of contract performance in terms of agreed expectations ,potentially leading to contractor logistics support contracts with penalties and incentives for actual contract performance vis-à-vis initial cost estimates .

In terms of actual practice, NATO uses a variety of LCC procurement techniques relating to source selection criteria, pre-award testing, design-to-cost/ LCC design trade study requirements, reliability and maintenance acceptance criteria and LCC incentive provisions . The actual choice of contract provisions by NATO procurement officials depends upon whether contract uncertainties are within or outside of a contractor's control: award fee and value engineering incentives provisions are favoured when uncertainties are great in areas outside such control, while more demanding incentive provisions such as support cost guarantees, reliability improvement warranties (the latter with or without an MTBF guarantee), reliability demonstration incentives, fixed-price repair with incentives and design-to-cost incentives are encouraged where the buyer has considerable experience with similar equipment and uncertainty primarily results from design and quality controls within a contractors areas of influence . Overall, NATO guidance places enormous significance on proper design of contractual provisions to strongly regulate operations and maintenance aspects of contractor behaviour during post-award contract implementation phase in defence acquisition: practices that are at stark variance with IAF's adaptations where the latter do not include spares and upgrade aspects in LCC calculations, let alone forming part of the finally-awarded contract.

b. *Acquisition Regulations and Executive Guidance on LCC in the United States*

The general sense under US's Federal Acquisition Regulation (FAR) , as well as its Department of Defence (DoD) Directives 5000.01 , 5000.02 and 5000.4-M , is that LCC is primarily a requirement of the acquisition planning phase; and later during the contract execution and administration phase, LCC estimates need to be used as reference costs for proper program monitoring and for ensuring adequate accountability and oversight in defence acquisition. Unlike the IAF's LCC model, LCC in the US is thus largely used for planning, budgetary and program monitoring, rather than using it as a contracting technique for competitive procurements with LCC as the *sole price-related determinant* for contract award.

Under the FAR, LCC is defined as “the total cost to the Government (of United States) of acquiring, operating, supporting, and (if applicable) disposing of the items being acquired” , and the FAR requires management to achieve the best balance between life-cycle cost, acceptable performance, and (delivery and operational) schedule during the acquisition planning process while applying “design-to-cost” concepts .In a defence acquisition context, LCC is defined more specifically as inclusive of all “Work Breakdown Structure” (WBS)

elements; all affected appropriations; and encompasses the costs, both contractor and in house effort, as well as existing assets to be used, for all cost categories; i.e., LCC is defined as the total cost to the Government for a program over its full life, including the cost of research and development, investment in mission and support equipment (both hardware and software), initial inventories, training, data, facilities, and the operating, support, and, where applicable, demilitarisation, detoxification, or long-term waste storage costs. This definition of LCC is very similar to “Total Ownership Costs” (TOC) mentioned in DoD instructions and the Defence Acquisition Guidebook, although TOC can be somewhat broader in scope and may include important relevant costs such as “support-to-equipment” costs and certain other infrastructure costs.

DoD instructions require defence program managers to consider supportability, life cycle costs, performance, and schedule comparable in making program decisions. In addition, subsidiary DoD directives/ instructions also require program managers to, inter alia: (i) establish program goals for a minimum number of costs parameters describing the program over its life cycle, with approved baseline parameters serving as control objectives; and (ii) define exit criteria in relation to deviations from approved baseline criteria so defined. Small business participation is an important objective to be kept in view during this process: program managers are required to structure acquisition strategies to facilitate small business participation preferably directly, or where such participation may not be available, through teaming arrangements. DoD instructions also require program managers to prepare Life Cycle Sustainment Plans (LCSPs), and to ensure that three important processes—acquisition, requirements and budgeting—are all kept aligned while executing planned programs. Planning for life cycle sustainment of proposed products occurs during the “Technology Maturation and Risk Reduction” phase, where the underlying contracting rationale is described, including strategies for maintaining competition throughout the program life cycle. Program managers are specifically tasked to develop proper acquisition strategies, using both direct competition at various levels and indirect means to create competitive environments that encourage improved performance and cost control. Within this context, specific acquisition strategies to be considered by program managers include one or more of the following: (i) competitive prototyping; (ii) dual sourcing; (iii) open systems architectures that enable competition for upgrades; (iv) acquisition of complete technical data packages; (v) competition at the subsystem level; and (vi) providing opportunities for small business and organisations employing the disabled.

What is extremely interesting from contracting perspectives is that the DoD instructions require program managers to extensively use “Cost Baseline Controls” and “Should Cost” management approaches as management tools to control and reduce cost. Program managers are thus required to proactively

target cost reduction and drive productivity improvement into defence programs by identifying and achieving savings below budgeted most-likely costs. Further, DoD instructions also mandate use of “Should Cost” analysis during contract negotiations, particularly for sole source procurements, throughout program execution including sustainment. Program managers are also encouraged to proactively seek out and eliminate low-value added or unnecessary elements of program cost, to motivate better cost performance wherever possible, and to reward those contractors that succeed in achieving those goals through appropriate design of contractual incentives and penalties.

c. *LCC under the Canadian “Next Generation Fighter Capability” (NGFC) Program*

From a contracting perspective, LCC computations under the NGFC Program in Canada include costs of related acquisition and sustainment contracts, as well as contract costs for sustainment and operations after program completion. In program terms, the “LCC Estimate” (LCCE) includes aspects such as development, acquisition, sustainment, upgrades, operation and disposal or decommissioning, including propulsion and mission software systems throughout the expected operational life of the Joint strike Fighters; and much like the US system, LCCE in Canada is being largely used for supporting budgetary decisions, key decision points, milestone reviews and investment decisions.

Unlike the IAF position, the “upgrades” element of the LCCE necessarily includes “mandatory” upgrades as well as “block” upgrades to maintain the NGFC capability within overall sustainment costs, while future upgrades that would significantly alter the capabilities of the aircraft are unlikely to be considered as part of the LCC of current capability requirements. Similarly, the LCCE in Canada also includes support and maintenance costs, examples being costs of spares, consumables, repair parts, stores, reserves and support and test equipment, thereby capturing sustainment and operations costs far more realistically as compared to the IAF’s LCC model which excludes these important cost elements both from LCC-based L1-vendor determination as well as from the finally contracted costs.

### Comparative Review of the IAF’s TCA Model with International Best Practices

As seen from the analysis contained in the previous sections, LCC is primarily applied under international best practices largely to budgeting and planning, particularly for making comparative evaluations such as “buy” versus “make” in defence acquisitions, or in-house works versus outsourcing of administrative functions. Because of its inherent complexities, when applied to competitive contracting scenarios as in the NATO, proper use of LCC requires careful design of complex contractual provisions for awarding incentives and levying penalties on successful contractors, so as to maintain strict (or better) conformity with their

promises on life cycle costs at the time of comparative evaluation of bidders' responses. This important and critical requirement for successful use of LCC is missing in the IAF's TCA Model, with the likely result that actually-experienced costs under the latter could be much higher than those used for comparative evaluation of bids, implying both misleading calculations both on life cycle costs as well as misleading relative ordering of preferred bidders while entering into contract negotiations by the MoD. The regulatory controls are also capable of being better enforced under NATO, US and Canada's LCC frameworks vis-à-vis the IAF's TCA Model, given that the contractors are largely domestic under the former set of international practices, leading to better access to cost-related information and greater negotiating capabilities and legal authority for contracts enforcement vesting with the contracting officers.

This discipline, particularly under the US LCC Model, is reinforced by complex regulatory frameworks such as the "Truth In Negotiations Act" (TINA) that offers contracting officers deep insights and significant negotiating authority over internal costs and pricing aspects of business performance of contractors, in addition to intrusive institutional capabilities residing with the "Defence Contract Audit Agency" (DCAA) and the "Defence Contract Management Agency" (DCMA).

Another adverse implication of practicing a LCC-based procurement process with foreign contractors are the public policy issues surrounding vendor lock-in with a foreign vendor for three to four decades altogether, leaving no incentives for indigenous capacity building in terms of acquisition and development of domestic manufacturing and technological capabilities. In contrast to the IAF practice, all of the three international frameworks studies in this paper—the NATO, the US, and the Canadian—apply LCC within a domestic contracting framework, treating the acquisition program as one for acquisition of war-fighting capabilities rather than merely acquiring weapons and platforms without sustainable acquisition of strategic war-fighting capabilities as implied under the IAF's TCA Model. In fact, small business participation, either directly or through teaming arrangements, as well as maintaining competition throughout the life cycle, are important and mandatory requirements under the US Guidance, elements that are simply missing from the IAF's TCA framework. In addition, long-duration contracting with foreign business entities is now an extremely risky proposition, in the background of rapid enlargement of ITAR-type of legal frameworks through instruments such as the Arms Trade Treaty that essentially enable business entities engaged in defence exports to leverage their proximity to host exporting governments, to unilaterally circumvent their contractual promises on delivery to countries importing defence equipment using ad-hoc and subjective assessments on human rights and poverty as convenient fig-leaves disguising formal technology denial regimes.

The following table contains a quick summary comparing the IAF's TCA Model with NATO, US and Canadian Guidance on LCC/TCO.

Table 1.1

Program/ Contract Design Aspect	IAF' TCA Model	NATO's LCC Guidance	LCC/ TCO under US Defence Acquisition	LCC under Canada's NGFC Program
Contracting Environment	Competitive, Fixed - Price Procurement	Mostly Cost-Reimbursement/ Cost-Sharing Contracts; largely Single-Source Procurement	Mostly Cost-Reimbursement/ Cost-Sharing Contracts; largely Single-Source Procurement	Mostly Cost-Reimbursement/ Cost-Sharing Contracts; largely Single-Source Procurement
Nationality of Contractors	Foreign Contractors	Mostly European Contractors	Mostly US Contractors, limited to Sub-contracts with Entities in Strategically-Aligned Countries	Mostly Canadian Contractors, limited to Sub-contracts with Entities in Strategically-Aligned Countries
Purposes for which Used	Competitive Procurement	Primarily Acquisition Planning; Financial Forecasting and Ensuring Fiscal Discipline	Primarily Acquisition Planning; Financial Forecasting and Ensuring Fiscal Discipline	Primarily Acquisition Planning; Financial Forecasting and Ensuring Fiscal Discipline
Cost Elements considered for LCC/TCA	Very Limited Number of Cost Elements (Important Cost Elements such as Planned Upgrades and MTBF-based Reserve Costs not Included)	Near-Complete and Exhaustive	Near-Complete and Exhaustive	Near-Complete and Exhaustive
Differences between Cost Elements Considered for Vendor Selection and for Contract Award	Significant Differences Exist; Important Cost Elements left out as Non-Binding Costs in Finally-awarded Capital Acquisition Contracts	Differences generally absent; Contracts generally follow all Costs Elements considered for LCC; Strict Enforcement through Incentive/ Penalty Provisions	Differences generally absent; Contracts generally follow all Costs Elements considered for LCC; Strict Enforcement through Incentive/ Penalty Provisions	Differences generally absent; Contracts generally follow all Costs Elements considered for LCC; Strict Enforcement through Incentive/ Penalty Provisions
Potential for Gaming during Vendor-Selection and Contract Award	High; Particularly in the Absence of Binding Contractual Provisions and the Absence of "TINA"-type of Costing and Audit Regulations	Low; Primarily Enforced through Proper Design of Contractual Clauses on Penalties and Incentives	Low; Primarily Enforced through TINA Authority coupled with Suitable Design of Contractual Provisions for Penalties and Incentives	Low

## Conclusions

As shown in this short paper, the TCA model adopted by the IAF appears to be really a "whittled-down" LCC model, ignoring important costs elements such as certain spares' costs and the cost of planned upgrades while computing TCA for a best-offer or (L1-vendor) determination, quite contrary to the letter and intent of the government Defence Procurement Procedure (DPP) in India. Similarly, the absence of certain cost elements that are used for LCC-based L1-determination in the finally negotiated contracts is also startling, given that such omissions are likely to lead to misleading results and award decisions in actual experience. Unless substantially reworked, LCC-based defence acquisition using the standard IAF model is also likely to result in single vendor lock-in with foreign suppliers for decades altogether: an eventuality that could harm important national objectives

of self-reliance and value-for-money in defence procurement in India, and would thus be at complete variance with the stated objectives of using LCC in defence acquisition in the first place.

These problems with the IAF's Model could be easily mitigated by: (i) firstly, aligning the TCA Model to bring it in conformity with the guidance laid down under the DPP; and (ii) simultaneously expanding current DPP's guidance beyond existing minimalist provisions on LCC, even if meant for use under a foreign contracting framework. The reforms process must necessarily include undertaking an in-depth refinement of the TCA model so that all relevant costs are fully captured in the L1-vendor determination process as well as during contract negotiations, and suitably reflected as binding contractual provisions with penalties and incentives in concluded contracts along international best practices on the subject. Such difficult albeit much-needed reforms will, in turn, ensure that MoD's interests are fully protected in terms of probity, contract efficiency and sustained indigenisation during the challenging process of awarding such high-value and inherently high-risk awards for acquisition of defence platforms and weapon systems in India.

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## Notes

<sup>1</sup>Chopra, A. (2013), *Life Cycle Costing: Value for Money*, SP-MAI, available online <http://www.spsmai.com/experts-speak/?id=51&q=Life-Cycle-Costing:-Value-for-Money>.

<sup>2</sup>For an analysis of complexities with life cycle costing under EU Directives on public procurement; see, den Abeele, É.V. (2012), *The Reform of the EU's public Procurement Directives: A Missed Opportunity?*, ETUI Working Paper 2012.11, ¶2.2, pp.33-34.

<sup>3</sup>See, e.g., Özkil, A. (2001), *Life Cycle Cost Procurement Techniques*, Paper presented at NATO's RTO SAS Symposium, available online [www.dtic.mil/get-tr-doc/pdf?AD=ADA418689](http://www.dtic.mil/get-tr-doc/pdf?AD=ADA418689).

<sup>4</sup>Chopra, supra n.2.

<sup>5</sup>Singh, R. (2011), *Incomplete Contracts and Cost Overruns*, available online [http://chaire-eppp.org/files\\_chaire/Cost\\_Overruns-Ram\\_Singh1.pdf](http://chaire-eppp.org/files_chaire/Cost_Overruns-Ram_Singh1.pdf).

<sup>6</sup>*Transparency and Accountability in Military Spending and Procurement*, SIPRI, available online <http://www.sipri.org/research/armaments/milex/transparency>.

<sup>7</sup>Ministry of Defence (2013), *Defence Procurement Procedure-2013*, ¶75, Chapter I, p.27.

<sup>8</sup>Chopra, supra n.2.

<sup>9</sup>*Ibid.*

<sup>10</sup>*Ibid.*

<sup>11</sup>Costs of MTBF-based reserves were excluded by the IAF in all but the first TCA case; *ibid.*

<sup>12</sup>*Ibid.*

<sup>13</sup>Answer by RakshaMantri to Lok Sabha Unstarred Question No. 585, November 26, 2012, available online <https://mod.nic.in/forms/List.aspx?lid=1666&ld=61>.

<sup>14</sup>MoD, *supra n.8*, ¶1(k)(v) of *General Guidelines for Transfer of Technology (SKD/CKD/IM Kit-based Manufacturing)*, p.164.

<sup>15</sup>*Ibid.*, ¶54, Chapter I, p.21.

<sup>16</sup>LokSabha, *supra n.14*.

<sup>17</sup>MoD, *supra n.8*, ¶1(k)(v) of *General Guidelines for Transfer of Technology (SKD/CKD/IM Kit-based Manufacturing)*, p.164.

<sup>18</sup>*Ibid.*

<sup>19</sup>*Ibid.*, ¶54, Chapter I, p.21. See, also, MoD, ¶11 and ¶17(a) of *Guidelines and Conditions for Establishing Maintenance Infrastructure with an Indian Firm*, p.124 and p.125; and MoD, ¶¶6, 8 and 19(a) of *General Guidelines for Transfer of Technology (SKD/CKD/IM Kit-based Manufacturing)*, p.170, p.171 and p.174.

<sup>20</sup>Chopra, *supra n.2*.

<sup>21</sup>*Ibid.*

<sup>22</sup>Price, C.R., and Coolahan, J.E. (2011), *Modeling of Life Cycle/ Operations & Support Costs: To What Degree is Commonality Achievable?*, NDIA Presentation, available online [http://www.ndia.org/Divisions/Divisions/SystemsEngineering/Documents/Committees/M\\_S%20Committee/Reports/LCC\\_Modeling\\_Report\\_\(2011-4-20\)\\_Marked\\_Final\\_Draft.pdf](http://www.ndia.org/Divisions/Divisions/SystemsEngineering/Documents/Committees/M_S%20Committee/Reports/LCC_Modeling_Report_(2011-4-20)_Marked_Final_Draft.pdf). See, also, Schwatz, M. (2014), *Defence acquisition Reform: Background, Analysis, and Issues for Congress*, CRS Report 7-5700, p.19, available online <http://fas.org/spp/crs/natsec/R43566.pdf>.

<sup>23</sup>Chopra, *supra n.2 read with Lok Sabha, supra n.14*.

<sup>24</sup>NATO (2007), *RTO Technical Report: Methods and Models for Life Cycle Costing*, available online <http://ftp.rta.nato.int/public//PubFullText/RTO/TR/RTO-TR-SAS-054//SSTR-SAS-054-ALL.pdf>.

<sup>25</sup>¶2.8, p.2-14, *ibid.*

<sup>26</sup>Figure 2-3, ¶¶3.2.2, p.2-5, *ibid.*

<sup>27</sup>*Ibid.*

<sup>28</sup>*Ibid.*

<sup>29</sup>¶¶6.1-6.5, pp.6-1 to 6-8, *ibid.*

<sup>30</sup>¶3.5.9, pp.3-22 to 3-25, *ibid.*

<sup>31</sup>Figure 3-14, p.3-27, *ibid.*

<sup>32</sup>¶3.5.9.4, p.3-25, *ibid.*

<sup>33</sup>¶3.8.4, p.3-40, *ibid.*

<sup>34</sup>Özkil, *supra n.4*.

<sup>35</sup>*Ibid.*

<sup>36</sup>Available online <http://www.acquisition.gov/far/current/pdf/FAR.pdf>.

<sup>37</sup>Department of Defence (2003), *Directive Number 5000.01*, available online <http://www.dtic.mil/whs/directives/corres/pdf/500001p.pdf>.

<sup>38</sup>Department of Defence (2013), *Interim Instruction Number 5000.02*, available online [http://www.dtic.mil/whs/directives/corres/pdf/500002\\_interim.pdf](http://www.dtic.mil/whs/directives/corres/pdf/500002_interim.pdf).

<sup>39</sup>Department of Defence (1992), *Cost Analysis Guidance and Procedures*, available online <http://www.dtic.mil/whs/directives/corres/pdf/500004m.pdf>.

<sup>40</sup>FAR ¶7.101.

<sup>41</sup>*Ibid.*

<sup>42</sup>DoD, *supra n.39*, ¶C3.3.7, p.49.

<sup>43</sup>Work Breakdown Structure (WBS) elements consist of Prime Mission Equipment, System Engineering/ Program Management, System Test and Evaluation (except Operational Test and Evaluation funded from

Military Personnel or Operation and Maintenance appropriations), Training, Peculiar Support Equipment, Data, Operational/Site Activation, and Industrial Facilities; DoD, *supra* n.39, ¶C3.3.3.1, p.46.

<sup>44</sup>Defence Acquisition University, *Defence Acquisition Guidebook §3.1.5*, available online <https://acc.dau.mil/CommunityBrowser.aspx?id=488333#3.1.5>.

<sup>45</sup>Kobren, B. (2014), *Life Cycle Costs (LCC) and Total Ownership Costs (TOC): A Study in Contrasts*, available online <https://dap.dau.mil/career/log/blogs/archive/2014/02/24/life-cycle-costs-lcc-and-total-ownership-costs-toc-a-study-in-contrasts.aspx>.

<sup>46</sup>DoD, *supra* n.38, ¶E1.1.29, p.10.

<sup>47</sup>*Ibid*, ¶4.3.4, p.3.

<sup>48</sup>*Ibid*.

<sup>49</sup>*Ibid*, ¶E1.1.24, p.9.

<sup>50</sup>DoD, *supra* n.39, ¶5(a)(4)(f), p.4.

<sup>51</sup>*Ibid*, ¶5(b)(1), p.4.

<sup>52</sup>*Ibid*, ¶5(d)(4)(c), p.19.

<sup>53</sup>*Ibid*, ¶5(d)(4)(f)(1), p.19.

<sup>54</sup>*Ibid*, Enclosure 2, ¶7(c), p.76.

<sup>55</sup>*Ibid*, Enclosure 2, ¶9(c)(1), pp.77-78.

<sup>56</sup>For full details of the NGFC LCC Framework; see, Treasury Board of Canada (2012), *Next Generation Fighter Capability: Life Cycle Cost Framework*, available online <http://www.tbs-sct.gc.ca/reports-rapports/ngfc-cng/lccf-cccvt/lccf-cccvtb-eng.asp>.

<sup>57</sup>¶3.3.1, *ibid*.

<sup>58</sup>¶3.2, *ibid*.

<sup>59</sup>¶5.1.2, *ibid*.

<sup>60</sup>Annexure B: Program Cost Breakdown Structure, *ibid*.

<sup>61</sup>[www.dcaa.mil](http://www.dcaa.mil).

<sup>62</sup>[www.dema.mil](http://www.dema.mil).

<sup>63</sup>Government of India (2013), *Official Statement to the Conference on Disarmament, Geneva and Head of the Indian Delegation to the Arms Trade Treaty Conference*, available online [http://www.un.org/disarmament/ATT/statements/docs/20130318/20130318\\_india\\_E.pdf](http://www.un.org/disarmament/ATT/statements/docs/20130318/20130318_india_E.pdf).

<sup>64</sup>See, e.g., Verma, S. (2013), *FDI in Defence: Lessons for Developing Countries*, IDSA Comment, available online [http://www.idsa.in/idsacomment/FDIinDefence\\_sverma\\_070513.html](http://www.idsa.in/idsacomment/FDIinDefence_sverma_070513.html).

# Hot Dak Tracking System: A Tool for Faster and Effective Monitoring

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## Abstract

*The Hot Dak Tracking system (HDTS) is a tool designed for more effective management of communication within an office or a vertical chain of command. It forces officers to prioritise important and urgent dak and aims to quicken the speed of communication along the command chain – downwards and on its return upwards. By providing a platform for continuous review it also helps in effectively getting certain tasks done in a systematic way. A simple step by step process has been outlined which explains the manner in which the software is operationalised for transmitting information and also the manner in which tasks are monitored. The key differences between this software and the E- Samadhhan initiative have also been spelt out bringing out its strengths and limitations. The manner in which the scope and effectiveness of the software can be increased in the future has also been outlined in the end.*

## Introduction

Tracking of important communication is one of the most important ways to develop a strong grip over the functioning of any office. In all government offices, a large quantity of DAK is received every day. This DAK may contain directions, orders, important instructions, clarifications or could also seek important information and comments. The DAK is supposed to flow down the hierarchical pyramid of the office with the Head of the office directing it down to respective branches/dealing hands.

Since the quantity of the DAK is high, it becomes very difficult for the concerned officer to effectively track the progress being made in dealing with each communication (Hereinafter, known as PUC, or the Paper under Consideration). Furthermore, once the particular PUC has been read and marked down to the particular branch, it is almost left to the efficiency of the concerned dealing hand as to when the file will be presented before the officer for decision. As much as it is possible for the officer to record the PUCs that need to be monitored on priority, it does not help the cause of institutional memory. A newly appointed person has little or no idea of which PUCs need urgent personal attention. The same applies for the dealing hand of the branches. He/she has no idea, on assumption of charge, which PUCs needs immediate focussed attention. Furthermore, a system of continuous review which systematically records the progress achieved or not achieved and the reasons for the same becomes very difficult to maintain physically in a non digitised format. Another drawback of the conventional system

of dealing with the DAK is the huge time lags in the physical transmission of a particular PUC from the stage of marking to the branch. It often takes 5-7 days and chances of DAK getting lost also arise.

Thus, it was with an aim of overcoming all these bottlenecks/shortcomings that we designed the HOT DAK tracking system.

### Step by Step Process

1. The important DAK is marked HD – an acronym for Hot Dak by the officer himself. This is the first and most important step. An officer at the level of a Deputy Commissioner could get up to 200 PUCs a day. Thus, the classification as HD has to be done selectively to separate important and urgent DAK from communication which is of more general nature. The officer may also record his comment/direction on the PUC.
2. The HD DAK is entered into a Software called the Hot Dak Tracking system (HDTS). Access to this software is restricted through a unique username and password for the HOD, officials and also the branch dealing hands.



3. Once they have entered the software, there are various options like 'Reference entry', 'Progress entry' and 'Reports'. Access is given selectively. A branch person has access to information pertaining to his/her branch alone. Every new entry is made under the Reference entry head. This is accessible to the HOD alone. Similarly, progress entries can be made by the branch heads/dealing hands. There is an option of viewing the status of the entire office under the Reports head.



4. New entry involves entering the number and type of reference, the subject matter, address, despatch number, direction of the Head of office and to whom it is directed (Both the Branch head and dealing hand). In addition to this, the first page of the PUC is also scanned and uploaded onto the system as a PDF file. A definite timeline is also indicated for each dak. Once this PUC is loaded and saved, it immediately reaches the electronic dashboard of the concerned employee. This saves precious time and expedites disposal. Thus, nobody can feign ignorance even if the dak is delayed or lost in transition. This single PUC can be sent to one or more offices/branches.



5. The form in which it appears in the dashboard of the recipient is shown below. The colour of the 'target date' column depends upon how much time there is left for action. If more than three days are left for the deadline the background is blue. If less than 3 days are left, the background becomes white but the font becomes red. However, in case the deadline is not met, the column itself turns red. In the snapshot below, the deadline has not been met, as indicated by the red colour.



- 8. An officer wise – detailed list can also be filtered. (Shown below)



- 9. A search by specific reference number of the PUC can also be made. (Shown below).



- 10. PUCs can be disposed off only at the level of the HOD. (Shown below). A snapshot of a pendency monitoring report is also shown.





It is a role-based, work-flow based system where each user can work on the References/PUCs assigned to him/her only. All the References/PUCs are shown in the user's own dashboard or in the dashboard of the officer-in charge of that branch.

How the HDTS is different from e-Samadhaan?

*A question likely to be asked is how this system is different from E-Samadhan, the Online Grievance Redressal System of the government. The differences are as follows:*

1. Firstly, e-Samadhan is an Online Grievance Redressal system accessible to public. It is expected that issues of public concern are brought to the notice of the concerned department through this software. In contrast, the HDTS is a system for internal office use only. It aims to monitor the progress on various PUCs received by the Head of department.
2. Secondly, there is no system of filtering the petitions received through the e-Samadhan. Issues ranging from the most serious to the inane can be received through it. However, in the HDTS the filtering happens in form of the Head of Department clearly indicating the importance of the PUC. Only important Dak is entered onto the software, thereby focussing the energy of the office on key issues.
3. Thirdly, in e-Samadhan there is provision for forwarding an application to a subordinate office and also transferring the application to another department. This often results in loss of time and a tendency of deflecting responsibility. It also dissipates the sense of accountability in the office. In the HDTS, there is no provision for forwarding applications or transferring them. So, if DC marks a request for demarcation to the Tehsildar, it shows up in the dashboard of the SDM since he is the direct controlling officer of the Tehsildar.

The tendency of skipping levels is avoided by keeping only one level at each stage.

4. The HDTS derives its strength from the formal codified system of hierarchy and control. This means that it is limited to PUCs (tasks) flowing from a controlling officer downwards. This could be explained by the taking the example of a Deputy Commissioner in a District. He will use this software for revenue and Rural development functionaries only. It is because he is directly responsible for all work done in these two departments. In the case of line departments this system has not been implemented because this system is based on continuous review, updating of status etc. Since the Deputy Commissioner has a role of coordinator at the district level and not a single controlling officer, the effectiveness would not be so great if implemented across departments. However, there is no reason why heads of departments like the Superintendent of Police, Superintending Engineers or Conservator of forests cannot use this in their daily functioning. This aspect limits the scope of the software but also makes it effective as opposed to a software which becomes very all encompassing but at the cost of its effectiveness.

Another big advantage of evolving such a system is in case of transfer or when an HOD avails leave and his/her charge is assigned to another officer. The new incumbent, by going through the list of HD marked PUCs gets an idea of what is important and urgent. Also, it has been experienced and observed that often when somebody holds additional charge, the Dak pertaining to that period often gets ignored. This is due to the communication gap between the two officers and the lack of a systematic approach to recording important tasks. This becomes particularly important for timely filing of court replies and also the follow up required for field inquiries or simply timely provision of important data.

### The way forward

The software we are operating in District Hamirpur is based on HIMSWAN connectivity. This means that only offices which are linked via HIMSWAN connectivity can be on this common platform. The restriction which comes with that set up is that one can only use it only from office. However, the next step would be to host this software online so that anybody can view his lists of important tasks from anywhere through the internet. This would add location flexibility to the holding of review meetings as well.

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# Regulating Mergers and Acquisitions in the Pharmaceutical Sector: Competition Policy Dilemmas and role for the Competition Commission of India

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## Abstract

*The pharmaceutical industry is 'unique' because unlike other sectors, the demand here does not work in the standard 'textbook' fashion. The consumers here do not have the freedom to choose between the competing products based on their features and relative prices. The reason being that most consumers are not qualified enough to understand the pharma related ingredients printed on the packaging. Thus, they rely only on the medical advice whose credibility again has been under suspicion in recent times. This brings us to the question of 'supplier-induced-demand', with a high probability of distorting 'competition' in the market. Recent Mergers and Acquisitions (M&As) in the pharmaceutical sector has raised the eyebrows of many stakeholders in India because medicines are per se essential for human well-being. Consumers fear that such M&As may impact them adversely who are willing to sacrifice their consumption needs to incur healthcare expenses. In this light, the paper explores the anti-competitiveness of M&As in the pharma sector under the Competition Act, 2002. The paper briefly traces the history of pharmaceutical industry in India, moving on to throw light on the current market structure. It also expands on all the pharma M&A deals approved by the CCI under the Act, 2002. In doing so, it also looks at the proposed combination of Sun Pharma and Ranbaxy, which is currently under the CCI scanner. Finally, the paper evaluates the role for CCI and the various dilemmas it faces in approving pharma M&As, with recommendations to bring in more 'competitive neutrality'.*

## Prologue: Competition Regulation in the Pharmaceutical sector

'Good health' is an integral part of any 'happy' economy. Pharmaceutical sector has become indispensable to the well-being of the population of a country. The more the number of people are dependent on this, the more it is influenced by regulation. It is this 'regulation' which shapes the nature of 'competition' in the market. As the Organisation for Economic Cooperation and Development (OECD) highlights the three fold objectives of such regulation are: (i) To secure a reward for Research and Development (R&D) to ensure continuous innovation in the market (ii) to ensure the safety of the drugs being supplied in the market (iii) to control the quantity and enhance the quality of drug expenditures. In almost all OECD countries the pharmaceutical sector is subject to competition law, although the ubiquitous impact of regulation may, in practice, limit the application of competition law in this sector. There have been many issues that has arisen in

competition law enforcement. The 'relevant product market' for competition purposes in the pharmaceutical sector for any given condition is the set of drugs which are substitutes in the treatment of that ailment. This relevant market is similar to the 'therapeutic class' as usually referred to in the pharma industry. The relevant product market is also affected by the nature and extent of insurance reimbursement. Though, this may be more relevant to the European Union (EU) and United Kingdom (U.K.) jurisdiction than India, but such a situation may arise in the event two-high priced products though medically substitutable, has negligent competition between them owing to the fact if one is being reimbursed by the health insurer and the other is not. This could act as a competitive restraint to the latter party. Similarly, variant reimbursement and drug purchasing policies in different countries lead to different pharmaceutical prices and individual product market shares. This aids the pharmaceutical companies in further segregating the markets to their personal benefits.

Pharmaceutical industry is not immune from collusion agreements. In many cases, India and abroad there have been instances of pharma companies engaging in anti-competitive agreements detrimental to the consumers and market. The most infamous case is of the Vitamins cartel where a number of pharmaceutical manufacturers were found guilty of maintaining a global cartel to fix prices and allocate market shares for sale of certain vitamins over a period of ten years. Another instance of anti-competitive practice has been a Czech Republic private association of pharmacists raising the requirements for obtaining a certificate required to establish a pharmacy to non-members of the chamber. This led to significantly raising of entry barriers in the market for non-pharmacists. So far, no case involving pharmaceutical manufacturers' cartels has been decided by the Competition Commission of India (CCI). There has also been no case/instance of alleged cartelisation or price-fixing agreements between any two or more pharma giants in India. Such activities are dealt within specific sub-sections of Section 3 of the Indian Competition Act, 2002. Since the scope of the paper does not extend to 'anti-competitive agreements' in the pharma sector, it briefly mentions about 'collusion along the pharma distribution chain' in India where brazen collusion has been found amongst the chemists pharmacies in 2012 and 2013. Cases like *Varca Chemist and Druggist & Ors. v. Chemists and Druggists Association, Goa*, *Vedant Bio Sciences v. Chemists & Druggists Association of Baroda* and *M/S Santuka Associates Pvt. Ltd. v. All India Organisation of Chemists and Druggists and Ors.* reflect a raft of common anti-competitive practices affecting the pharma distribution chain in India for over thirty years now, involving producers and distributors, where the government policy can be seen as a facilitating instrument.

Certain drug companies which are dominant in some therapeutic classes have resorted to abuse of its dominant position to foreclose competition in the market. For example, in France, Lilly-France adopted the practice of offering discounts to hospitals who purchased generic drugs along with brand-name drugs for which it held a dominant position. The French courts held that the purpose of this discount was to illegally restrict access to hospitals in the market for generic drugs.

However, no case concerning 'abuse of dominant position' in the pharma sector under Section 4 of the Indian Competition Act, 2002, have been reported so far to CCI. Post 2005 amendment in the Indian Patents Act, many drug companies have acquired legal monopolies. This monopoly has aided in attaining 'dominance' which brings us to the question of 'essential facilities'. The issue of grant of patents to the competitors on fair, reasonable and non-discriminatory terms (FRAND) to give way to 'essential facilities' attracts Section 4 of the Competition Act, 2002 in the event it leads to open denial of market access and to the patented technology. In everyday life, we experience doctors prescribing medicines only of a particular brand. This also leads to restricting competition when cheaper drugs are already available in the market. Pharma market being 'unique' in its nature puts the consumer in a situation where he finds difficult to locate a substitute to the prescribed medicine. This as a result leads to 'dominance' of the pharma company being maintained in the market. Some manufacturers also force chemists not to stock rival brands, thus maintaining the 'dominance' of their own brands.

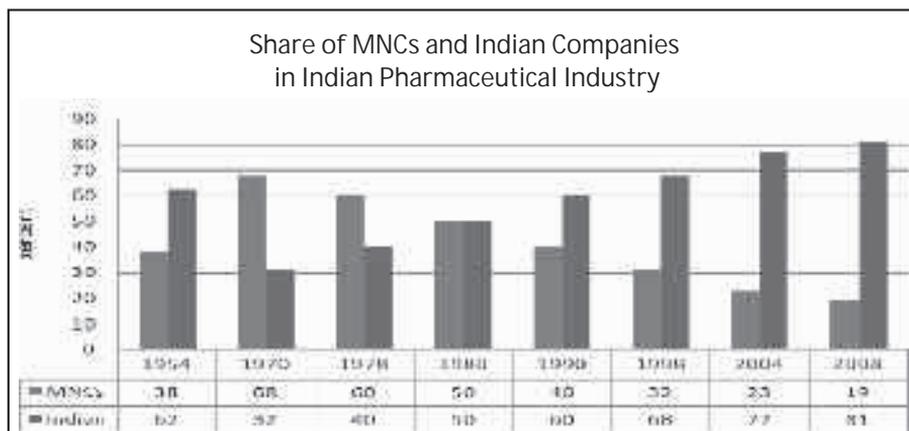
Competition regulation across OECD countries also has a role to play in case of pharmaceutical mergers which have a tendency to reduce competition in the market in the event both the firms are currently competing. In the pharma sector, the primary competitive threat comes from products under development and a merger may have the potential to eliminate the threat of entry of rival products. Thus, it can be said that not only the current products but also the drugs currently under development have implications on mergers of pharmaceutical companies. Mergers may also impact the R&D competition which may facilitate collusion in the industry. Greater the competitive threat, greater number of collusions it may facilitate leading to more number of implicit agreements to divide R&D efforts in therapeutic classes between the colluding firms. The United States (U.S.) Federal Trade Commission (FTC) has been particular about the number of vertical mergers in the US pharmaceutical companies between drug manufacturers and Pharmacy Benefit managers (PBMs). The PBMs have been found to be favouring its drug affiliates over other manufacturers, thus facilitating collusion amongst the drug manufacturers by giving the drug manufacturer detailed information regarding its rivals' rebates and discounted prices. Mergers have also been under the competition scrutiny in pharmaceutical distribution. For example: In the US, the FTC had opposed the mergers of the four largest pharmaceutical wholesalers into two companies as it would have lead to control over 80 percent of the prescription drug market, impeding competition on prices and services. The sections relating to Combinations under the Indian Competition Act, 2002 came into effect only in June 2011. Since then CCI has passed eight (8) orders in Mergers and Acquisitions (M&A) deals in the Indian pharma sector. All these eight deals were approved by the Commission. The recent Sunpharma-Ranbaxy deal has entered into Phase II investigations by the CCI and no order approving or disapproving the deal has been passed so far. The most recent order passed by the CCI approving two combinations in the pharma sector was in June 2013. Both these cases involved sale

of assets by the Indian companies to the multinational company. The CCI did not find any 'appreciable adverse effect on competition' (AAEC) given the circumstances that both the acquired entities were predominantly export-oriented and did not compete with the acquirer for the same range of drugs.

Thus, pharmaceutical industry has a key role to play in any economy given the fact that the consumers are always ready to cut down their consumption expenditure to meet the healthcare needs. Given its importance to any economy, it is also heavily regulated. It is in this context that it becomes a very good subject to study the overall competition impact assessment and the competition policy dilemmas. This paper consists of a brief history of the Indian pharmaceutical industry covering the market structure of the pharma sector. The paper highlights the role for CCI in light of the M&A orders passed so far and the Committee reports on this issue. It also tries to identify the 'competition policy' dilemmas in M&As pharma cases. Finally, the paper evaluates the 'competitiveness' and 'adeptness' of the Indian competition regime in dealing with the uncertain and unseen scenarios of M&A in pharma sector.

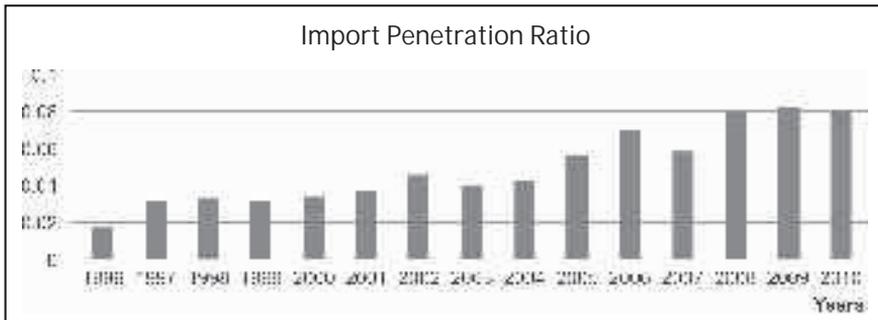
#### Brief history of the Pharmaceutical industry in India

India relied more on the indigenous system of medicines prior to the British Rule in India. The idea of 'allopathic' medicines came to be known only during the British era. The efforts of the indigenous people led to the steady establishment of the modern pharmaceutical industry. The pharma industry in India was dominated by the indigenous sector until 1950. The change in the pattern of manufacture of drugs also changed the equation between the Indian pharmaceutical industry and global multinationals (MNCs) with the influence of MNCs increasing in India. But this era saw more of manufacture than research in the pharma sector leading to reduction of the indigenous share in the pharma sector. Foreign companies held the patents for almost all pharmaceutical products in India under the patent laws, and the drug prices in India were higher than most other countries in the world. The government of India with an intention to obliterate the control of MNCs over the pharma sector decided to reduce the dependence on imports and felt the need to 'regulate' the industry. The government made a conscious attempt to give preference to the national industry to pave way for the growth of domestic generic industry in India. Post 1970, the scenario changed drastically wherein the patent laws were amended, price controls on essential drugs were imposed and limits were imposed on foreign companies under the Foreign Exchange Regulation Act (FERA) along with restrictions on imports. However, post 2005, the industry has been witnessing increasing technical collaborations and a spate of M&As. This brings us to the question of sustained growth and future of the domestic generic pharma industry such that self-reliance and price-competition is ensured even in the long run. The graph below depicts the current share of MNCs and Indian companies in the Indian pharmaceutical industry (Source: Chaudhari, 2005)



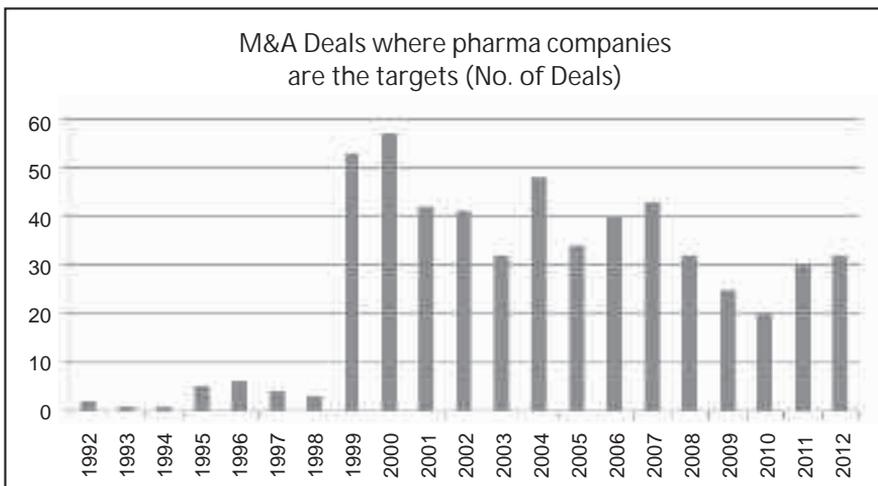
An overview of the Pharmaceutical market structure in India

'Market structure' of the pharma industry is reflected through the number of firms, their relative sizes, concentration of firms in the industry, barriers to entry, pattern of exit and entry of firms, import competition, merger and acquisition activities, foreign direct investment, composition of players and research and development activity. The Annual Report of the Department of Pharmaceuticals reported that there were 10,563 pharma manufacturing units in India, comprising 8174 producing formulations and 2389 producing bulk drugs. To a layman, these figures would suggest high degree of competition. However, the number of factories operating under the 'Basic Pharmaceutical and Pharmaceutical preparations' is only 3957. It is important to note here that the ASI cover units only in the 'organised' sector, thus the lower number can be attributed to this factor. Analysis of the Report of Bhattacharjya (2014), brings the author to the conclusion that the Indian pharmaceutical industry is heterogeneous in size. It is plagued with extreme fragmentation and with concentration at the top. The report suggests that pharma sector comprises a very large number of small firms and a small number of large firms. The market share of even the largest of pharma firms in India is upto 9% suggesting that it should be fairly competitive in nature. However, it would be premature to come to such a conclusion as the actual competition takes place within the same range of drugs. Kaur (2012) in her study calculates the Hirschman Herfindahl Index (HHI) for pharmaceuticals showing that it declined considerably during the 1990s and then rose in 2000-2004 owing to the increase in M&A activity. Further, data on imports and exports suggest that import penetration has increased significantly as shown below. This graph has been calculated by Bhattacharjya using the data of Ministry of Commerce (2014).



### M&As in the Indian Pharmaceutical Industry & Competition Act, 2002

There has been a spate of M&As in the Indian pharma sector post 2000. It has been more pronounced after 2005 given the amendments in the Indian Patents Act. Literature review suggests that pharma mergers have become frequent than before and mostly the mergers have been 'horizontal' in nature. The graph below shows that the majority of mergers have taken place post the TRIPS period:



Combinations are covered under Section 5 and 6 of the Competition Act, 2002. It is also subject to CCI (Procedure in regard to the transaction of Business relating to Combinations) Regulations, 2011. As mentioned in the introduction to the essay, CCI so far has cleared eight (8) M&A deals, a brief summary of these deals are as follows:

- (a) *Reckitt Benckiser Investments India Private Limited (RBIPL), Paras Pharmaceuticals Limited (PPL) and Halite Personal Care India Private Limited (HPCIL)*

This combination was scrutinized under Section 5 (c) of the Act, 2002. This was a two step merger deal wherein the merger related to RBIPL with PPL as the first step and demerger of personal care division of PPL with HPCIL as the second step. As the ultimate control over the activities carried out by the parties prior and post the combination would lay in the hands of RB group which is based out of Singapore, CCI held that the proposed combination would not result in AAEC within the territories of India.

- (b) *Orchid Research Laboratories Limited (ORLL) and Orchid Chemicals and Pharmaceuticals Limited (OCPL)*

This related to the merger of ORLL with OCPL in accordance with an amalgamation scheme under the then Companies Act, 1956. It was examined under Section 5 (c) of the Competition Act, 2002. There were two grounds for which the proposed combination would not have resulted in AAEC: (i) OCPL was engaged in production of Active Pharmaceutical Ingredients (APIs) and formulations whereas ORLL was engaged only in drug discovery and development of new chemical entities, making the two unrelated to each other (ii) the ultimate control prior and post the merger of OCPL and ORLL would remain with OCPL.

- (c) *PHL Holdings Private Limited (PHPL) and Piramal Enterprises Limited (PEL)*

The proposed combination was dealt under Section 5 (c) of the Competition Act, 2002 for the merger of PHPL with PEL. Holding the combination not to have AAEC within India, the CCI opined that as it is an arrangement between enterprises of the same group such that the control over activities of PEL prior and post the merger would remain unchanged, it has less likelihood of harming 'competition' in the market.

Thus, it is submitted that the above three cases passed the scanner of CCI without any significant hurdle given the fact these deals involved restructuring among group affiliates with no substantial change in control.

- (d) *Mitsui & Co. Limited (Mitsui) and Arch Pharma Labs Limited (Arch)*

In this case Mitsui already held an equity share of 5.25% in Arch. The proposed combination pertains to acquisition of 26.71% share of Arch by Mitsui and was examined under Section 5 (a) of the Competition Act, 2002. The said combination was said to have no AAEC in India on account of following reasons: (i) Mitsui through its subsidiary is into the business of manufacture and sale of APIs, contract manufacturing and contract research activities worldwide but not in India (ii) Mitsui in the given case did not have either direct or indirect control in any enterprise in India which was engaged in a similar range of business to that of Arch (iii) As both the companies are not engaged in similar businesses, there is a lesser likelihood of AAEC (iv) Lastly, apart from Mitsui and Arch, there are lot many companies globally which are much larger in size than the above two.

- (e) *G & K Baby Care Private Limited (G&K), Danone Asia Pacific Holdings Pte Limited (Danone Asia Pacific), Wockhardt Limited (Wockhardt) and Carol Info Services Limited (Carol) and Wockhardt EU Operations (Swiss) AG (Workhardt EU)*

The Commission approved the Combination after examining under Section 5 (a) of the Act, 2002. The combination relates to baby food (nutraceutical sector) and medical nutrition business which is regulated by Food Safety and Standards Authority in India. G&K acquired the nutrition business of Wockhardt and wanted to acquire the contract business of Carol. Danone Asia acquired certain intellectual properties of Wockhardt EU. The activities of Danone Group in India restricted only to bottled water and fresh dairy products and it is not present in any activity in which the acquired businesses operate. Further as the market share of Wockhardt in baby food business and medical nutrition business is significantly smaller compared to the other players in the same line of business, CCI saw no reason to hold the proposed combination to have AAEC in India.

Thus, it is submitted that both the cases-Mitsui and G&K had no significant effect on competition due to the absence of vertical or horizontal relationships between the merging parties. Further, in both the cases, there were already significant number of players in the market, showing no concern for the case of likelihood of 'dominance' in future.

- (f) *Orchid Chemicals and Pharmaceuticals Limited (OPCL) and Hospira Healthcare India Private Limited (HHIPL)*

This was one of the cases where competition issues came to the surface. This combination related to acquisition of some of the businesses called as 'Transferred Business' by HHIPL from OCPL pursuant to the Business Transfer Agreement (BTA) and was examined under Section 5 (a) of the Act, 2002. OCPL is a listed public company and is 100% export oriented. It is involved in the manufacture of APIs, oral formulations, Non-penicillin & Non-Penem Non-Cephalosporin (NPPC) verticals, New Drug Discovery (NDD), Novel Drug Delivery System (NDDS) and Contract Research and Manufacturing Services (CRAMS). Earlier OCPL used to manufacture the injectable formulations in Cephalosporin, Penem and Penicillin, which were subsequently transferred to HHIPL in 2009 in accordance with an earlier BTA. On the other hand, HHIPL is a 100% indirect subsidiary of Hospira Inc, USA. It is engaged in the manufacture of injectable Cephalosporin, Penem and Penicillin verticals in the pharma sector. Given the operations of the two companies, it is relevant to mention that there was negligible horizontal overlap between the formulations done by them, but there was an existing vertical linkage: HHIPL was procuring ASIs Penems from OCPL which it converted into formulations. This amounted to vertical integration as HHIPL was found to be procuring around 89% of the Penems produced by OCPL in the year 2011-2012. Nevertheless, the combination was not held to be anti-

competitive as OCPL had a negligible share of the market for Penems in India, thus it would have lesser tendency to foreclose the domestic markets. But CCI commented on the 'non-compete' part of the agreement which restricted the future R&D by OCPL. The non-compete agreement was accordingly modified such that it would minimize the AAEC in the domestic markets.

(g) *Mylan Laboratories Limited (Mylan) and Unichem Laboratories Limited (Unichem)*

The proposed combination comprises acquisition by Milan from Unichem and fell under Section 5 (a) of the Act, 2002. Mylan is a pharma company incorporated under the Companies Act, 1956 having eleven manufacturing facilities in India of which eight are engaged in APIs, two for manufacture of Finished Doses Forms (FDFs) and one for injectibles. It is also engaged in R&D, development and manufacture of APIs and solid oral dosage forms of pharmaceuticals. Unichem is also a pharma company incorporated under the Companies Act, 1956 with seven manufacturing units in India, two of which are engaged in APIs and five in FDFs-which is also the core function of Unichem. The CCI observed that the proposed combination comprises acquisition of a newly established FDF manufacturing facility located in Special Economic Zone (SEZ) from Unichem with the intent to export products to be manufactured at the said facility. Thus, it will not affect any market in India as Mylan is neither acquiring any shares, voting rights or control in Unichem, giving no rise to AAEC in India.

(h) *Mylan Inc. (Mylan) and Strides Acrolab Limited (SAL)*

The proposed combination related to the execution of a Sale and Purchase Agreement entered between Mylan and SAL which involved acquisition of the issued and outstanding share capital of Agila Specialities Private Limited by Mylan, directly or through its subsidiaries. This combination fell under Section 5 (a) of the Act, 2002. As the acquired entity was predominantly engaged in export business and did not compete with the acquirer in the same line of drugs, CCI found no AAEC. However, it was approved only after the acquirer in this case agreed to limit the scope and duration of the non-compete agreement similar to the case of Orchid & Hospira as discussed above. The Commission observed that 'non-compete obligations, if deemed necessary to be incorporated should be reasonable particularly in respect of (a) duration over which such restraint is enforceable (b) the business activities, geographical areas and persons subject to such restraint do not become a victim of AAEC.

These cases also escaped the stricter scrutiny of Competition Act, 2002 as the threshold asset and turnover levels for reviewable mergers are quite high which results in many deals actually escaping the purview of CCI despite the fact that they may have anti-competitive effects. Further the March, 2011 notification enhancing the thresholds specified in the 2002 Act by 50% on account of inflation and separately exempting Combinations for five years where the target enterprise, its subsidiaries has either: (i) assets not exceeding Rs. 250 crores in India or (b) turnover not exceeding Rs 750 crores in India, has aided in more companies escaping the scanner of CCI.

### Sun-Pharma and Ranbaxy M&A Deal

On April 6, 2014, SunPharma had announced it would buy Ranbaxy from Japan's Daiichi Sankyo in an all share deal pegged at \$4 billion, including the debt of \$800 million as on the Ranbaxy books. This case is 'unique' because it is the first instance where the CCI has ordered a public scrutiny of the proposed M&A deal to ensure compliance to fair trade regulations. Under Section 29(2) of the Act, 2002, CCI formed a prima facie opinion that the combination is likely to have AAEC and directed Sun Pharma and Ranbaxy to publish details of the combination within 10 days for bringing the combination to the knowledge of the public affected or likely to be affected by such combination. The Commission also invited objections or suggestions under Section 29(3) of the Act who are likely to be affected. Based on Form IV submissions available in the public domain, the author is of the view that the proposed deal may have AAEC in India. The merger will create India's biggest drug maker with a market share of 9.2 % which shall lead to substantial market share of the combined entity in several popular medicines. The challenge for CCI in this case appears to be the determination of 'relevant product market' because each molecules or combination of molecules of medicine in this case is not substitutable, thus the relevant product market for each molecules line may be different. But, it should be remembered that the Commission also has powers to order divestiture of overlapping businesses while evaluating the present merger application. The proposed merger may also have impact on the 'innovation' market reducing R&D in the pharma sector.

### Role for Competition Commission of India (CCI) in Pharmaceutical mergers and Competition policy dilemmas

One of the major competition policy dilemmas for CCI has been the M&A deals which are exempted in terms of the assets turnover via the March 2011 'Notification'. The table below shows the instances of three deals where the threshold was greater than Rs. 1500 crores but it was exempted from the watchdog's scanner owing to the aforementioned 'Notification'. It is quite evident that had this exemption not been there, the below mentioned deals would have to pass the scanner of CCI.

Date	Acquirer	T	A	Target	T-Target	A-Target	Combined T	Combined A
Merger Deals		Rs. Million	Rs. Million		Rs. Million	Rs. Million	Rs Crore	Rs Crore
26-Jul-12	Biocon Ltd.	13656	28308	Biocon Biopharmaceuticals Pvt. Ltd.	101.9	2395.3	1375.79	3070.33
02-Aug-12	Elder Pharmaceuticals Ltd.	9924.9	17276.7	Elder Health Care Ltd.	486.3	751	1041.12	1802.77
17-Sep-11	Ipca Laboratories Ltd.	18787	19185.9	Tonira Pharma Ltd. [Merged]	303.2	580	1909.02	1976.59
Source	CMIE Prowess and Authors' Calculations							
T and A	Turnover and Assets							
These are all exempted from the CCI's scanner because their assets and/or turnover are less than 250 and 750 crore								
The combined assets and/or turnover are above the threshold set by CCI								

In case of Biocon and Elder Pharmaceuticals, the acquisition involved the 'subsidiaries' of the respective companies, hence as per the Combination Regulations, 2011, these two M&A deals would have still been approved as they would not have resulted in AAEC in India. In order to remedy such Competition policy dilemmas it is advisable to lower the thresholds for the pharma sector so that more M&A deals, especially involving foreign companies are carefully scrutinised. It is relevant to mention here about the Arun Maira Committee Report which discussed the ways in which the government can 'control' and 'regulate' the influx of foreign companies into the Indian pharma sector to ensure that there is no detrimental effect of these acquisitions on prices and availability of medicines in India. The Maira Committee recommended that the threshold should be reduced under the Act, 2002. Sometimes M&As in the pharma sector may terminate the production of cheaper drugs produced by Indian firms that they take over and perhaps also scale back their research and development activities so as to prevent competition for their brands. The Committee emphasized the role of CCI in handling M&A activities in the pharma sector. However, the Ministry of Health was quite opposed to the idea that CCI has the capability to address a range of public health and industrial policy issues. The Ministry was also reluctant to appear before CCI to represent the interest of the consumers. The Ministry suggested that foreign acquisitions of more than 51% of the equity of Indian firms should require approval of Foreign Investment Promotion Board (FIPB). On the contrary the Maira Committee did not show much confidence in the 'non-transparent discretionary' approvals by the FIPB which it felt was a reminiscent of the 'license raj'. The author concurs with Report of the Committee that went on to praise the 'robustness' of the legal competition regime in India. The Competition Act, 2002 provides a framework of legal transparency and requires evidence-based, time-bound decision making, with well-defined rights for the parties with the right to appeal in the Competition Appellate Tribunal (COMPAT). The Act has teeth to deal with concerns about the impact of acquisitions on price, availability, innovation, competition and IPR and to order behavioural or structural remedies to deal with AAEC. It also has a scheme under the Act for consultations with outside bodies with relevant expertise, making CCI as a whole better placed than FIPB in dealing with foreign M&As within India. The long pending Competition Bill, 2012 in the Parliament if passed will empower CCI to deal with the issues raised by foreign takeovers in the pharmaceutical sector for this shall allow the government, in consultation with CCI to notify 'different asset and turnover' thresholds 'for any class of enterprises', not only pharma sector, giving more teeth to the competition watchdog. Further the Bill seeks to make consultations with other regulatory agencies mandatory rather than voluntary as provided under the extant legislation. It is submitted that in order to maintain 'competitive neutrality', solutions need to be structural and should be applied to all the companies in the pharma industry.

Epilogue: The Competition Act, 2002: Are we prepared for the 'unseen'?

The paper throughout has tried to evaluate the implications of M&A in pharma sector on the 'competition' in market. In doing so, it has relied on the extant

competition legislation i.e. Competition Act, 2002 (Section 5&6), the orders passed by CCI in pharma M&As so far, Sunpharma-Ranbaxy proposed combination details in the public domain, Arun Maira Committee Report and the Competition Amendment Bill, 2012. On a careful analysis of the prevailing scenario with regard to the 'competition policy dilemmas' discussed above and the 'role for CCI' in merger control in pharma sector, it is submitted that there is a need to foster 'competitive neutrality' in our economy. Sunpharma-Ranbaxy M&A could be one of the landmark Combination order if passed by CCI. It will be quite interesting to look at the reasoning of CCI while determining the 'relevant market' and deciding the existence of AAEC if any in this proposed combination. As combination cases decided until June, 2013 did not give much scope to CCI to apply the principles of AAEC within India, it is too early to comment on the 'adeptness' of the anti-trust body in dealing with such cases. But, the paper presents an optimistic view about the role of CCI in pharma M&As and rebuts the scepticism shown by Ministry of Health towards CCI in dealing with issues relating to public health. With the progress of CCI in a short span of seven years, it is recommended that setting up of Standing Advisory Committee with representation from all relevant government departments and agencies to assist CCI in pharma M&As is quite a welcome step. The existing thresholds under the Act, 2002 should be made more flexible so that no anti-competitive mergers in the pharma sector escapes the scrutiny of CCI. It is also important to assess the impact of Combination in pharma sector on 'innovation markets'. This innovation ensures price-competitiveness and increases the substitutability for existing medicines in the market. Acquisitions which involve takeover of generic companies may lead to change in priorities of generic companies which might reduce competition in generic markets. The author visualizes the 'unseen' and 'uncertain' scenario to be a case where CCI finds it difficult to determine whether a proposed pharma merger would amount to a 'Combination' for the purposes of Competition Act, 2002 when it has a greater possibility of adversely affecting competition within India. In such a situation CCI would require more powers as envisaged under the Bill, 2012 to overcome the hurdles while dealing with pharma M&As.

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## Notes

<sup>1</sup>OECD Policy Roundtables, 'Competition and Regulation Issues in the Pharmaceutical Industry', 2000, available at <http://www.oecd.org/competition/sectors/1920540.pdf>, as accessed on November 4, 2014.

<sup>2</sup>Ibid at p. 55.

<sup>3</sup>To resolve this issue of 'relevant product market' in the pharmaceutical sector, the European Commission's Competition Directorate has adopted the practice of defining the relevant product market according to the therapeutic classes set out in the Anatomical Therapeutic Classification (ATC) system which is recognized and used by the World Health Organisation (WHO). This system has a very detailed statistical information which adds on to its advantage to the pharmaceutical businesses.

<sup>4</sup>The Guardian, 'Vitamin cartel fined for price fixing', November 21, 2001, available at <http://www.theguardian.com/money/2001/nov/21/personalfinancenews.europeanunion>, as accessed on November 4, 2014.

<sup>5</sup>Dr. Bjorn Volkerink, 'Study of Regulatory restrictions in the field of pharmacies', June 2007, available at [http://ec.europa.eu/internal\\_market/services/docs/pharmacy/appendices\\_en.pdf](http://ec.europa.eu/internal_market/services/docs/pharmacy/appendices_en.pdf), as accessed on November 4, 2014.

<sup>6</sup>Section 3 of the Competition Act, 2002 prohibits Anti-competitive agreements between enterprise or association of enterprises or person or association of persons. They are prohibited to enter into any agreement in respect of production, supply, distribution, storage, acquisition or control of goods or provision of services, which causes or is likely to cause an appreciable adverse effect on competition within India.

<sup>7</sup>Decided on June 11, 2012.

<sup>8</sup>Decided on September 5, 2012.

<sup>9</sup>Decided on February 19, 2013.

<sup>10</sup>To further understand the nature of anti-competitive agreements in the pharmaceutical sector in India, please see Aditya Bhattacharjee & Fiyanshu Sindhvani, 'Competition Issues in the Pharmaceuticals Sector', Centre for Development Economics, Delhi School of Economics, January 2014.

<sup>11</sup>Supra note 1 at p. 57.

<sup>12</sup>Section 4 of the Competition Act, 2002 prohibits 'Abuse of Dominant position', wherein No enterprise can abuse its dominant position by directly or indirectly imposing unfair or discriminatory condition in purchase or sale of goods or services or price in purchase or sale (including predatory price) of goods or service. The firm should not limit or restrict production of goods or provision of services or market or technical or scientific development relating to goods or services to the prejudice of consumers. The firm should also not indulge in practices resulting in denial of market access in any manner. The firm should not indulge into practices amounting to monopoly leveraging and should not conclude such contracts subject to acceptance by other parties of supplementary obligations which by their nature or according to commercial usage have no connection with the subject of such contracts.

<sup>13</sup>The Indian Patents (Amendment) Act, 2005 introduced product patents in India and marked the beginning of a new patent regime aimed at protecting the intellectual property rights of patent holders.

<sup>14</sup>Under Explanation to Section 4 of the Competition Act, 2002- 'dominant position' means a position of strength, enjoyed by an enterprise in the relevant market, in India which enables it to operate independently of competitive forces prevailing in the relevant market or affect its competitors or consumers or the relevant market in its favor.

<sup>15</sup>The essential facilities doctrine is a legal doctrine, which describes a particular type of claim of monopolization made under competition laws. In general, it refers to a type of anti-competitive behavior in which a firm with a market power uses a 'bottleneck' in a market to deny competitors entry into the market. It is closely related to a claim for refusal to deal.

<sup>16</sup>See U.S. Submissions on Competition and Regulation in the Pharmaceutical sector on the OECD Roundtable Policy Conferences, available at <http://www.oecd.org/competition/sectors/1920540.pdf>, as accessed on November 4, 2014.

<sup>17</sup>Chaudhary S., 'The WTO and India's Pharmaceutical Industry', Oxford University Press, New Delhi, 2005.

<sup>18</sup>The Ayyangar Committee report examined the then Patents and Designs Act, 1911 and came to the conclusion that foreign patent holders dominated the industry through large number of filings and grants. It opined that the prevailing patents law failed to work in the 'national interest', which led to the Indian Patents Act, 1970 that

limited patents only to process in case of pharmaceuticals and agricultural chemicals.

<sup>19</sup>Ministry of Statistics and Programme Implementation (MOSPI), Central Statistics Office, 'Annual Survey of Industries (ASI) 2010-2011: Summary of results for Factory Sector', Statement 5A, at p. 27-28.

<sup>20</sup>Supra note 9 at pp-16-34.

<sup>21</sup>HHI is a commonly accepted measure of market concentration. It is calculated by squaring the market share of each firm competing in a market and then summing the resulting numbers.

<sup>22</sup>Paramjeet Kaur, 'Mergers in India: Exploiting Financial Synergies', Academic Foundation, New Delhi, 2012.

<sup>23</sup>Ministry of Commerce and Industry, Department of Commerce, Government of India.

<sup>24</sup>Supra note 9.

<sup>25</sup>Manish Agarwal and Aditya Bhattacharjya, 'Mergers in India: A Response to Regulatory Shocks', *Emerging Markets Finance and Trade*, 42 (3), May-June (2006) and Sudip Chaudhuri, 'The Larger Implications of the Novartis-Glivec Judgement' *Economic and Political Weekly*, 48 (17): 10-12, April, 2013.

<sup>26</sup>Horizontal Merger is a merger occurring between companies in the same industry. It is a business consolidation that occurs between firms who operate in the same space, often as competitors offering the same goods or services. Such mergers are common in industries with fewer firms, as competition tends to be higher and the synergies and potential gains in market share are much greater for merging firms in such an industry.

<sup>27</sup>Ibid.

<sup>28</sup>Section 5 relates to acquisition of one or more enterprises by one or more persons or merger or amalgamation of enterprises which shall be called a combination of such enterprises and persons or enterprises in the event in attracts the specified thresholds.

<sup>29</sup>Section 6 relates to regulation fo Combinations wherein No enterprise or person shall enter into a combination which causes or is likely to cause an AAEC within the relevant market in India and such a combination shall be void.

<sup>30</sup>Order passed by CCI on May 8, 2012, available at

<http://www.cci.gov.in/May2011/OrderOfCommission/CombinationOrders/C-2012-02-39MainOrder.pdf>, as accessed on November 7, 2014.

<sup>31</sup>Order passed by CCI on February 29, 2012, available at

<http://www.cci.gov.in/May2011/OrderOfCommission/CombinationOrders/ORLfeb12.pdf>, as accessed on November 7, 2014.

<sup>32</sup>Order passed by CCI on December 27, 2012, available at

<http://www.cci.gov.in/May2011/OrderOfCommission/CombinationOrders/C-2012-12-96.pdf>, as accessed on November 9, 2014.

<sup>33</sup>Order passed by CCI on September 19, 2012, available at

<http://www.cci.gov.in/May2011/OrderOfCommission/CombinationOrders/C-2012-08-73.pdf>, as accessed on November 7, 2014.

<sup>34</sup>Order passed by CCI on September 15, 2011, available at

<http://www.cci.gov.in/May2011/OrderOfCommission/CombinationOrders/G&KOrder15092011.pdf>, as accessed on November 8, 2014.

<sup>35</sup>Order passed by CCI on December 21, 2012, available at

<http://www.cci.gov.in/May2011/OrderOfCommission/CombinationOrders/C-2012-09-79.pdf>, as accessed on November 9, 2014.

<sup>36</sup>Order passed by CCI on June 6, 2013, available at

<http://www.cci.gov.in/May2011/OrderOfCommission/CombinationOrders/C-2013-04-119.pdf>, as accessed on November 8, 2014.

<sup>37</sup>Order passed by CCI on June 20, 2013, available at

<http://www.cci.gov.in/May2011/OrderOfCommission/CombinationOrders/C-2013-04-116.pdf>, as accessed on November 8, 2014.

<sup>38</sup>The Business Standard, 'CCI invites public comments on Sun-Ranbaxy deal', September 5, 2014, available at

[http://www.business-standard.com/article/companies/cci-invites-public-comments-on-sun-pharma-ranbaxy-merger-114090401123\\_1.html](http://www.business-standard.com/article/companies/cci-invites-public-comments-on-sun-pharma-ranbaxy-merger-114090401123_1.html), as accessed on November 13, 2014.

<sup>38</sup>Section 29 relates to procedure with regard to investigation of Combinations. Under sub-clause (2), the Commission if in its prima-facie opinion feels that the Combination is likely to have AAEC, it shall within seven working days from the date of receipt of the response of the parties to the combination or the receipt of the report of DG, whichever is later, direct the parties to the said combination to publish details of the combination within 10 working days of such direction in such manner it thinks appropriate for bringing the combination to the knowledge of the public and the person likely to be affected by such a combination.

<sup>40</sup>Under Section 29 (3), the Commission may invite any person or member of the public, affected or likely to be affected by the said Combination to file his written objections, if any, before the Commission within 15 working days from the date on which the details of the Combination were published under Section 29(2).

<sup>41</sup>Press Release, 'CCI invites comments from public in respect of proposed merger between Sun Pharma and Ranbaxy', September 4, 2014, available at <http://cci.gov.in/May2011/PressRelease/C-2014-05-170-Press-Release.pdf>, as accessed on November 13, 2014.

<sup>42</sup>Form IV, 'The CCI Combination Regulations, 2011-Publication of details of combination under Section 29(2) of the Competition Act, 2002' SunPharma and Ranbaxy, available at [www.sunpharma.com/Media/Press-Releases/Form%20IV.pdf](http://www.sunpharma.com/Media/Press-Releases/Form%20IV.pdf), as accessed on November 13, 2014.

<sup>43</sup>The Economic Times, 'Sun-Ranbaxy combine to control over 40% market for 25 drugs', August 5, 2014, available at <http://m.economictimes.com/industry/healthcare/biotech/pharmaceuticals/sun-ranbaxy-combine-to-control-over-40-market-for-25-drugs/articleshow/39642982.cms>, as accessed on November 12, 2014.

<sup>44</sup>Some examples of such a scenario has been evident when the US Senator Dianne Feinstein suggested the Federal Trade Commission in Valeant Pharmaceutical Inc/Allergan merger to examine if the merger would reduce R&D in the pharma sector, available at <http://www.feinstein.senate.gov/public/index.cfm/press-releases?ID=25db5525-b8c0-4ad0-a243-522a1479dd19>, as accessed on November 14, 2014.

<sup>45</sup>Sourced from Aditya Bhattacharjee & Fiyanshu Sindhvani, 'Competition Issues in the Pharmaceuticals Sector', Centre for Development Economics, Delhi School of Economics, January 2014 at p. 44.

<sup>46</sup>High Level Committee Report under the Chairmanship of Arun Maira, 'Affordable, Accessible, Acceptable Medicines for All: Issues regarding FDI policy in pharma sector', Planning Commission, June 2011.

# Direct Benefit Transfers for Efficiency, Effectiveness and Equity

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## Abstract

*Evidence from India and abroad shows that Direct Benefit Transfer (DBT) will bring-in substantial efficiency gains in disbursement of benefits from Government to citizens. Despite this, the roll out of DBT has not gone in the manner expected, primarily because of inadequate preparation. By clearly defining the scope and by process re-engineering, it is suggested to universalise implementation in certain categories, while moving with caution in certain others. For a DBT to succeed, it would be essential to maintain dynamic, accurate, real-time digitized database and availability of the commodities or services involved, along with a fund flow system besides proving for accessibility.*

## Introduction

When the Central Government announced Direct Benefit Transfer (DBT) in January 2013, it was hailed as a 'game changer' ushering in efficiency, transparency and equity - using the IT infrastructure, Aadhaar's unique identity system and the electronic money transfer platform of the Banking system. The DBT envisaged the direct transfer of Government subsidies, scholarships, wage employment allowance, pensions and other entitlements to the beneficiaries directly in his or her bank account on the basis of proper authentication.

Two years after its implementation, with the coverage of DBT is still limited to 0.3% of the total Central Plan outlay, and a time has come to review its performance so as to decide a way forward.

This paper examines:

- a) Why, if at all, the DBT should be continued, with or without modifications,
- b) If the DBT is to be continued, then what should be its scope?
- c) How can the implementation process be made more efficient and effective?
- d) How to address the legal issues and issues of availability and accessibility to make the DBT more meaningful and useful to the people.

## Analysis of the work done so Far

Since January 2013, (121) districts (out of the total 650 Districts in the Country) with high Aadhaar enrolment have been taken up for the roll out of DBT. Although (27) schemes / budget entries of (9) Ministries have been brought under the scheme, the direct transfer has started in the schemes which already entailed transfer of

cash benefits such as scholarships. Since the inception of the DBT for LPG, 8.31 crore transactions (as on 26.02.2014) have taken place under the scheme amounting to Rs. 4,647 crore. As against the total Central Government Plan budget of Rs. 5.75 lakh crore, this is less than 0.3%. Thus, it is clear that the scheme has been applied only in a very limited area, with limited success.

Where DBT has been put to work, it was found that it has “delivered a faster, more predictable, and less corrupt payments process without adversely affecting program access. The investment was cost-effective, as time savings to beneficiaries alone were equal to the cost of the intervention (in the case of the employment scheme). Overall the results suggest that investing in secure authentication and payments infrastructure can significantly add to “state capacity” to effectively implement social programs in developing countries”.

The evaluation of the programme shows that implementation of DBT in disbursement of benefits would bring in the following benefits:

- a) Greater efficiency: by prompt and timely payment.
- b) Accurate Targeting – by using digitised databases, and using the Aadhaar authentication to eliminate ghost beneficiaries and prevent leakages.
- c) Reduction of fraud and corruption: by elimination of multiple middlemen and multiple levels for transfer of funds.
- d) Greater transparency and accountability: by online monitoring of the movement of funds and electronic fund trail.

The use of DBT system in distribution of Pensions in Jharkhand showed efficiency gains by timely payment and elimination of bogus beneficiaries of more than 15% of the beneficiaries. Evidence from the East Godavari District of AP showed that use of biometric authentication of the PDS beneficiaries using Aadhaar numbers arrested leakages of upto 15%, which have been used to strengthen the delivery system. Based on these studies, it can be concluded that leakages up to 40% in the Public Distribution System and the fuel subsidies where, the richest 10% households receive six times more benefit than the poorest 10%, can be arrested by moving to the DBT and thereby bringing in gains in equity and efficiency.

Internationally, Direct Cash Transfer have had significant success in different countries of Latin America such as Mexico, Brazil, Chile, Colombia, Guatemala, Nicaragua, Peru as also many other developing countries such as Indonesia, Philippines, Cambodia and Bangladesh. A study by Soares et al has established that Conditional Cash Transfers (CCT) in Chile helped reduce inequality in the society. It was found that the targeting has been outstanding, the equalizing impact was responsible for about 21 per cent of the fall in both the Brazilian and the Mexican Gini coefficient.

#### Problems Faced in Implementation

Despite the possible positive impact of the DBT system, there has been a disappointing coverage of the scheme. This has been accounted by not correctly

assessing the process involved before implementing the system and inadequate preparation in tackling the issues arising in implementation. Some of these are:

- a) Non-involvement of the States even though the States have to contribute a part of the benefit.
- b) Incomplete digitisation of the beneficiary database with real-time updation (esp in NSAP and PDS schemes)
- c) Inadequate Aadhaar coverage (major States of UP, Bihar and North-east very poor)
- d) Complicated process in seeding the Aadhaar number in beneficiary database (only 40%)
- e) High degree of rejection of the seeded Aadhaar numbers after demographic authentication (55%), calling for repeating the process of seeding after another field verification.
- f) Unresponsive attitude of Banks in seeding the Aadhaar numbers in their database and linking the same with the NPCI mapper.
- g) Cash benefit being the more alluring, cash management is a challenge. Failure to assure availability of adequate funds/benefits for running the scheme (failure to reach adequate funds for NSAP scheme or food grains for the PDS scheme)
- h) Inadequate accessibility of banking facility in villages – there are just 60,000 bank branches for the 6 lakh villages. The inadequate IT / mobile coverage has ruled out the roll out in remote and backward areas of the Country.
- i) A fund flow mechanism that avoids multiple levels of release and expenditure integrated by an IT system.
- j) The poor spread of financial inclusion leaving many of the beneficiaries without a bank account.

Recommendations: What needs to be done?

Given the fact that DBT has been found disadvantageous, the following shall be the scope of DBT:

- a) DBT in cash transfers (e.g. all scholarships, pensions) It should be extended further in all these areas on a universal mode and by overcoming the challenges experienced.
- b) DBT in lieu of subsidy on LPG provided the subsidy portion is adequately indexed to end issue price.
- c) Conversion of in-kind subsidy to cash benefits: Extending the DBT to these categories should not be done automatically keeping in view the issues of affordability and accessibility: Whereas the Aadhaar can be used to weed out

bogus beneficiaries, monetising the non-cash subsidy can be anti-poor since these subsidies are not inflation neutralised (Suyash Rai, 2013). Further, replacing the present subsidy scheme with DBT in cash may prove disastrous if the issues of availability and accessibility are not adequately addressed. Therefore in such cases introduction of DBT has to be attempted cautiously as suggested below:

- (i) DBT in PDS: The subsidy in the form of dual pricing as in the case of PDS shouldn't be replaced with DBT in cash blindly as the issue of access and availability of food grain is a serious problem in many parts of this country. On the other hand in State like Delhi, where access and availability is not a serious constraint, DBT may succeed. Therefore, while PDS should be improved through continuous and sustained reforms, an option may be given to the States to reform the existing system or implement DBT either fully or partially by allowing options to beneficiaries depending on the local situation.
  - (ii) DBT in fertiliser subsidy as cash transfer: In view of the complications in land ownership and accessibility of the banking network, fertilisers may be brought into DBT in two stages: In the initial phase, DBT can be tried using the private distribution networks with systems for tracking and monitoring so as to ensure accessibility and availability of such commodities in the open market. Ultimately, the land ownership/tenancy needs to be digitised accurately for direct transfer of subsidy to the farmer/tenant. It may be kept in mind that any attempt of DBT in fertilisers is much more challenging as it requires reliable data and logistic system for efficient supply chain management.
- d) Other in-kind subsidies: Introduction of DBT by monetising any other type of in-kind subsidy may be done only after developing appropriate systems for monetising the value of the subsidy and robust logistic system with due consultation with all stakeholders/State Governments.

Why it needs to be done?

The present subsidy system is prone to huge leakages and inefficiency mainly due to weak delivery mechanism, lack of digitised real time beneficiary data base in work flow based web enabled format without sound authentication system. Further, there is lack of transparency in the flow of funds. The system of DBT will be able to address these issues.

How it can be done? (Recommendations)

For all the schemes that are proposed for coverage under DBT, the processes shall be made more efficient by:

- a. Enrolment of beneficiaries in camp approach for beneficiaries without Aadhaar numbers.

- b. For all the new enrolments, there shall be ab initio seeding of beneficiary data by integrating Aadhaar database at the time of enrolment itself, thereby eliminating the vexatious seeding (and demo authentication) process.
- c. Digitized beneficiary database to be seeded with Aadhaar number.
- d. Opening of bank accounts for all beneficiaries and seeding them with the Aadhaar numbers.

It is NOT sufficient to route the benefits through the Aadhaar-enabled electronic route. The benefits will be multi-fold if appropriate process re-engineering is done to identify and set right process inefficiencies and the system is made more reliable.

There has to be a partnership with the State Governments evolved after consultation prior to the proposed launch of the DBT in a particular scheme. This will help in taking them on board which is essential for the following reasons:

- a) All the centrally sponsored schemes have a component of state share. Since, the Direct Transfer is to the same beneficiary, the central share and the state share needs to be transferred together.
- b) At the field level the entire exercise can be undertaken only by the field officers who are mostly with the state governments or the local bodies.

Expansion of banking system, through Pradhan Mantri Jan Dhan Yojana, banking correspondents, mobile banking, post offices or Payment Bank as suggested by RBI Committee headed by Dr. Nachi ket Mor is a pre-requisite for the success of DBT.

A “Just in time” fund flow system which replaces the current supply push system with a demand-pull system under which, the funds are held at a central account connected to all expenditure points electronically. The authorised person can generate an electronic pay order and pull only the needed funds pushing the same directly into the accounts of the beneficiaries. This will assure neither a shortage nor surplus funds at any point, avoiding parking of funds at various levels.

It is essential to ensure that all the beneficiaries are provided access to the Aadhaar numbers. Unless this is done, elimination of the bogus beneficiaries cannot be ensured. This should be pleaded before the Supreme Court and the legal issues relating to privacy linked with Aadhaar numbers are resolved.

A grievance redressal mechanism at the State and the district level through call centres needs to be put in place for better accountability and for resolving in case of failures in transfer of funds to the beneficiaries.

\*The authors are senior officers of the Indian Administrative Service who underwent the Phase V course of the Mid-Career Training Programme at the Academy in October- November 2014.

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## Notes

<sup>1</sup>Annual Report 2013-14, page 129, Planning Commission

<sup>2</sup>Muralidharan, Karthik and others, "Payments Infrastructure and the Performance of Public Programs: Evidence from Biometric Smartcards in India", University College of San Diego, California, USA, March 2014

<sup>3</sup>Govt of Jharkhand presentation in Planning Commission conference on DBT

<sup>4</sup>S M Babu, District Collector Adilabad

<sup>5</sup>Soreas, 2007

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# Strategy to Improve Learning Outcomes in Primary Schools

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## Abstract

*Learning outcomes in primary education in India are poor especially in government schools. Also, the emerging new middle class is moving to private schools and first generation learners are joining government schools. This requires urgent intervention through a National Mission Rastriya Gunavata Abhiyan (RaGA). An Accountability framework based on 'low stake assessment' must be introduced without delay. Social choice through vouchers to the poor under RTE must be introduced. Special attention is needed to undertake governance reforms by empowering parents and community with strict monitoring measures which have consequences at all levels.*

## Introduction

Universal access to education with significant achievements in enrolment is now a reality with massive provisioning of educational inputs through recruitment of school teachers, student teacher ratios and teachers salaries, classrooms, toilets, drinking water, textbooks and basic facilities in primary schools. However, poor quality of education resulting in weak learning outcomes is the central challenge. The National Achievement Survey (NAS), State assessments, ASER Reports and many other studies show poor learning outcomes across the nation. The linkage between education and growth has been well documented. The quality of education has greater impact on growth than mean learning years spent in the school. We also need to address the social dualism in education to provide equal opportunity and a level playing field for every child to reap the demographic dividend. Hence, improvement of learning outcomes requires a basic policy thrust.

## Challenges

The challenges of inclusion and quality are closely linked. Social dualism or Socio Economic Segregation (SES) of students with commercialisation and tuitionisation need to be addressed. The quality of teaching in the Government schools has declined as the new middle class moves out to private schools and as first generation learners enter the system. Other challenges include weak governance structures, lack of convergence among various institutions, teachers' performance, training and monitoring, absenteeism, single teacher schools, rigid curriculum, rote learning, weak retention rate and lack of voice of the community and poor parents. Education is on the concurrent list and implementation of policy through states requires flexibility, consultation and coordination. Further, the present primary education governance apparatus is fragmented.

## Overview of Policy Options

This policy paper highlights changes in policy and governance mechanisms to improve learning outcomes. A mission mode approach is essential for effective implementation. Various options like common neighbourhood schools, voucher system and PPP model were analysed. The concept of common neighbourhood school is likely to increase segregation. The Voucher system provides social choice (Annex 4). PPP schools already exist and can be assisted based on learning outcomes.

A variety of models of assessment, high stake like PISA and TIMMS and low stake as in the Gunotsav of Gujarat as well as other methods like diagnostic testing were examined. Low stake assessment creates conducive environment involving all stakeholders for continuous improvements in the learning process with greater accountability. Online Child Tracking System of learning outcomes and aptitude certificate on leaving schools on the Gujarat model were analysed and were found to be worth replicating.

## Policy Recommendations:

Based on the above analysis, the following recommendations were made:

- i) *National Mission on Quality and Learning Outcomes in Primary Education: Rashtriya Gunavata Abhiyan (RaGA) must be established to achieve the following:*
  - Effective convergence and coordination amongst multiple organizations working in the field of primary education for effective implementation of the quality agenda
  - Constitute State Missions for convergence at state level
  - Issue Guidelines for a common minimum quality implementation framework.
  - Facilitate district-level transformation projects with innovative pedagogies, remedial activities, teachers training and appraisal
  - Disseminate best practices
  - Coordinate targeted research
  - Introduce Accreditation systems for benchmarking and ranking of schools,
  - Monitoring and mentoring of learning
  - State Missions will have flexibility for context and content within the overall thrust.
- ii) *Accountability framework based on low stake assessment (Gunotsav) centred on learning outcomes:*

The Gunotsav or “Celebration of Quality” Campaign in Gujarat, is an holistic accountability framework based on low stake mass assessment with performance benchmarks, measurable outcomes and stakeholder participation for all schools (Annex 2) . Other assessments like National Achievement Survey (NAS) NCERT and state assessments are not able to connect actively with the stakeholders and function as stand-alone exercises. The Gunotsav exercise is conducted in a participative manner and scholastic and co-scholastic outcomes are communicated through the school report card. The integration of Gunotsav assessment with UDISE platform for on line longitudinal tracking of learning outcomes for each child is also linked to teacher profiling. Gunotsav has been accepted as a best practice in the 12th FYP document and must be suitably adapted across the country.

iii) *Remedial Instruction and Aptitude Certification*

The importance of remedial instruction on learning outcomes has been well documented and must be part of the policy initiative. On the line of Gunotsav, follow-up remedial support must be given and training of teachers should be designed accordingly.

The assessment for learning outcomes with recognition of achievement must culminate in an aptitude certificate on leaving school which highlights the strengths and abilities of the student.

iv) *Learning outcomes must be a part of RTE legislation*

It is an important criterion for recognition of the schools in Gujarat RTE Rules, 2012 (Annex 3). Minimum basic indicators for learning outcomes must be common across all schools, both government and private.

v) *Governance Reforms*

a) *Greater involvement of stakeholders*

School Management Committees have limited effectiveness. Parents / user groups must be empowered with control on sanction of teachers leave, increments and feedback on performance.

b) *Strengthening Block level offices and Resource Centers*

Strengthening of administrative and pedagogic resources at the block level is must for mentoring and monitoring schools with high stake inspections as it improves teachers’ attendance and school performance. Teacher attendance must be monitored with biometrics. Innovative pedagogic material and methodologies must be utilized.

c) *Valorizing School Leadership*

School leadership has been found to play a significant role in school performance. The new cadre of school headmasters recruited competitively from government and private schools has been a new initiative which must be strengthened.

d) Rationalisation of teachers' deployment

Spatial deployment of teachers must be monitored centrally. Rationalization of teacher deployment improves learning outcomes at no additional cost.

vi) *Social choice through Vouchers*

The RTE addresses segregation through 25% intake of marginalised students in private schools. As an alternative, top down selection must be replaced with vouchers to the marginalised especially to the children in juvenile homes, orphans, street children, children with disabilities and other deprived groups. Beneficiaries will choose against available options. It can begin as a pilot in selected urban areas and scaled up subsequently. Government Navodaya and Kendriya Vidyalayas etc must be included. (See Annex 4)

vii) *Residential Schools and Seasonal schools*

Seasonal migration impacts retention and learning outcomes for children. Residential schools and seasonal hostels for these marginalised groups are a proven success which must be scaled up substantially.

viii) *Inclusion of Secondary Education in the Right to Education*

Twelve years of schooling is the international norm for universal education. Rising aspirations with universal education till 14 years has to be matched with a flexible system of universal education till Grade 12 with consolidation of life skills, equivalence of vocational and school system.

## Conclusion

Above initiatives are important to bring much needed improvement in the quality of primary education. There is an urgent need to:

- Set up a National Mission
- Detailed implementation of context specific 'low stake assessment' and accountability framework involving all stakeholders to improve learning outcomes
- Introduce scheme for vouchers and social choice
- Introduce governance reforms

Implementation of these initiatives will help significantly improve learning outcomes for primary education in India.

\*The authors are senior officers of the Indian Administrative Service who underwent the Phase V course of the Mid-Career Training Programme at the Academy in October- November 2014.

## Notes

<sup>1</sup>GER at primary level was 101.36 in 2013-14 and 89.3 at the upper primary level. The enrolment data for government schools indicates that 83.12 million children are enrolled in government primary schools and 38.84 million children in government upper primary level. Data from states reveal that 98% of the habitations in the country have access to primary schooling facilities and 92% habitations have access to an upper primary school, with 24 states reporting saturation in providing access to primary and upper primary schools as per their state norms. Under SSA there has also been an increase in the number of teachers appointed. These additional teacher posts have enabled in improving pupil teacher ratio in schools. In 2005-06 the PTR in the elementary cycle of schooling was 1:36; this has declined over the years; in 2009-10 PTR in primary schools was 1:33 and 1:31 at upper primary level; in 2013-14 this further declined to 1:25 for primary schools and 1:17 for upper primary schools *UDISE 2013-14 and MHRD State Reports 2013-14*. Between 2000-01 and 2013-14, enrolment in elementary education increased steadily up to 2012-13 before witnessing a declining trend during 2013-14, see MHRD *EFA Report 2013-14 Quality with Equity*.

<sup>2</sup>Learning outcomes are a set of statements that describe what students will be able to know, think and do at the end of the course. It consists of knowledge, understanding, application and development of intellectual skills. The specified action by the learners must be observable, measurable and must be done by them. Assessment criteria have to be linked to the learning outcomes. Learning Outcomes include both scholastic and co-scholastic standards. Life Skills have to be an integral part of these. See *Twelfth Five Year Plan Document, Vol III*, Chapter 21.13 and 21.14.

See also the *UNESCO Global Monitoring Report (GMR) 2014, Teaching and Learning: achieving quality for all*, Chapter 3, specially p205-211. <http://www.unesco.org/new/en/education/themes/leading-the-international-agenda/efareport/reports/2013/2013-report-epub-en#224>. The GMR 2014 emphasises the importance of clear prioritisation of learning outcomes in the national educational plans. See p 217-20.

Significant achievements in this area include - curriculum renewal with state-specific learning outcomes and CCE in 18 states; state programmes - school standards and performance assessments like the pioneering Gujarat-Gunotsav, Odisha-Samiksha, Karnataka Quality Accreditation & Rajasthan Sambalam; and interventions targeting Classes I & II to improve learning outcomes by most states with focus on early reading/ activity-based learning methodology - now adopted in the SSA framework. See MHRD *EFA Report 2013-14 Quality with Equity*.

<sup>3</sup>Karthik Murlidharan states that recent evidence suggests that at both the macro and microlevels what matters for both growth as well as employability are not years of education as much as the quality of education represented by learning outcomes and skills in '*Priorities for Primary Education Policy in India's 12th Five-year Plan*' [http://pdel.ucsd.edu/\\_files/paper\\_2013\\_karthik.pdf](http://pdel.ucsd.edu/_files/paper_2013_karthik.pdf). See also Paul W. Glewwe, Eric A. Hanushek, Sarah D. Humpage, Renato Ravina. 'School Resources and Educational Outcomes in Developing Countries: A Review of the Literature from 1990 to 2010' *NBER Working Paper No. 17554*. October 2011. Accessed on 17-10-2014 at <http://www.nber.org/papers/w17554>. The study is based on a review of studies between 1990 and 2010.

<sup>4</sup>See *Twelfth Five Year Plan Document, Vol III*, Chapter 21 op.cit.

See World Bank, *From Schooling Access to Learning Outcomes: An Unfinished Agenda An Evaluation of World Bank Support to Primary Education*, (2011) Chapter 3 and 4 and Recommendations - "Improving learning outcomes needs to be a core objective of all support for primary education, with a particular focus on achieving equity in learning outcomes by gender and among the poor.... Accountability and supervision systems need to be adapted to support improved learning outcomes."

<sup>5</sup>Differentiation of quality and standards and teaching and learning, see Andre Beteille, Chapter 6 'Access to Education' in *Universities and the Crossroads*, Oxford University Press, New Delhi, 2010 p86-87.

<sup>6</sup>The Wipro and Educational Initiatives (EI) "Quality Education Study" and "Student Learning in Metros" study found that even students in our top schools exhibited rote and procedural learning and lacked conceptual understanding. [http://www.eiindia.com/wpcontent/uploads/2012/01/Executive\\_Summary\\_Student\\_Learning\\_Study.pdf](http://www.eiindia.com/wpcontent/uploads/2012/01/Executive_Summary_Student_Learning_Study.pdf)

The Delors Report, *Learning: the treasure within* with learning as learning 'to know', 'to do', 'to live together' and 'to be' remains relevant.

<sup>7</sup>Low level of learning outcomes further result in higher dropout rate. See Govinda, R. (ed.) *Who Goes to School? Exploring Exclusion in Indian Education*. Oxford University Press, New Delhi, 2011 and Glewwe, Paul W., Eric A. Hanushek, Sarah D. Humpage, Renato Ravina. 'School Resources and Educational Outcomes in Developing Countries: A Review of the Literature from 1990 to 2010' *NBER Working Paper No. 17554*. October 2011. Accessed on 17-10-2014 at <http://www.nber.org/papers/w17554>

<sup>8</sup> “Where children of powerful groups shift to Private schools, pressure on government schools decline sharply? (Ramchandran and Saijhee 2002, 1604). SOCIO ECONOMIC SEGREGATION (SES) is visible whereby largely poor and underprivileged children are enrolled in the Government schools as rich and middle class are shifting towards private schools both in urban as well as rural India (Majumdar et al. 2000, Tilak et al. 2001, Shukla and Kaul 1998, Ramchandran and Saijhee (2002), and Aggrawal 2000, Srivastava, 2001, and Krishnaji 2001, all quoted in Ramchandran and Saijhee 2002:1600-1613).

<sup>9</sup> Many countries have raised the level of education and make drastic improvements in education in relatively short periods of time. Korea went from number 27 on the PISA measure to number 1. “In the Global Index of Cognitive Skills and Educational Attainment, South Korea tops the rankings, followed by Japan, Singapore and Hong Kong. This highlights the importance of clear goalposts and a strong culture of accountability among all stakeholders.” Schleicher Andreas <http://blog.ted.com/2013/02/21/4-surprising-lessons-about-education-from-data-collected-around-the-world>. The shift in international high stake assessment rankings from Scandinavia to East Asia is indicative of the different variables which go into student performance with no unilinear model available. It is systemic efforts with clear priorities which succeed.

<sup>10</sup> “National assessments are more appropriate than public examinations for diagnosing systemic education issues and understanding student performance gaps and distributions. .... Examinations, on the other hand, are usually too associated with high stakes to be an effective way for policy makers to understand the positives and negatives in their national systems.’ See Chapter 8 ‘Monitoring Learning Outcomes: Student Assessment Systems’ In Halil Dundar, Tara Bêteille, Michelle Riboud and Anil Deolalikar, *Student Learning in South Asia: Challenges, Opportunities, and Policy Priorities*, 295–319. Quote from p316

<sup>11</sup> For Gunotsav external evaluation and diagnostic testing see the following -Educational Initiatives - Sridhar Rajagopalan and V Agnihotri, *Assessment of Student Learning for Primary Classes, A Diagnostic Test Report, Gujarat 2012-13*, Executive Report –Gunotsav and Diagnostic Assessments- 2013 and Educational Initiatives, A Report on Gunotsav 4.

Kishore Singh in his *Report of the Special Rapporteur on the right to education (2014) A/HRC/26/27 Report to UN General Assembly* recommends a “holistic approach which is broader than the narrow approach of performance evaluation only of mathematical literacy and language skills, and which broadens the assessment of the educational attainments of students”.

<sup>12</sup> Many Indian states do their own assessments to gauge how effectively large-scale initiatives promote learning, such as the 3 ‘R’s Guarantee Programme and Educational Quality Improvement Programme (EQIP) in Maharashtra; the Integrated Learning Improvement Programme (ILIP) in West Bengal; Activity-Based Learning (ABL) and Active Learning Methodologies (ALM) in Tamil Nadu; Karnataka Schools Toward Quality Education (KSQE); Buniyad in Jharkhand, Neev in Uttarakhand, and Aadharin Himachal Pradesh; the Children’s Learning Acceleration Programme for Sustainability (CLAPS) in Andhra Pradesh; the Gujarat Achievement Profile (GAP); Nai Disha in Uttar Pradesh; the Multilingual Education Programme for tribal areas in Odisha and Andhra Pradesh; and Noottikku Nooroo in Kerala (Patnaik 2009).” 2009).” See Chapter 8 Monitoring Learning Outcomes: Student Assessment System’s in *ibid* p 318.

<sup>13</sup> See The World Bank Thomas Kellaghan, Vincent Greaney, T. Scott Murray Using the Results of National Assessment of Educational Achievement Washington DC 2009 p146. Involvement of a wide range of stakeholders is recommended. See also Vincent Greaney, T. Scott Murray Using the Results of National Assessment of Educational Achievement op cit p4.

<sup>14</sup> See K Singh. “75. In this context, the State of Gujarat in India is exemplary in taking steps towards abolishing the conventional “character” certificate, systematically delivered to all students at the end of primary or secondary education, and replacing it with an “aptitude” certificate, which shows the aptitude of students as appraised by teachers, parents and students themselves, allowing them to pursue secondary or higher education. This has the inherent advantage of motivating students to pursue studies based on their aptitude.” The main idea according to Singh is assessment for learning, not assessment of learning, *op cit*, *Report of the Special Rapporteur on the right to education (2014) A/HRC/26/27 Report to UN General Assembly*, Recommendation for aptitude testing p 16.

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DISE-District Information System for Education and Education Management Information Systems (EMIS) – MHRD, NUEPA and SSA- (provides data for each school, block, district and state. has been important for the sector. With U DISE and unique ID for each child introduced in some states, data for each child and tracking learning outcomes for each child is now possible. The NUEPA DISE indicators however do not cover learning outcomes. The focus remains on access and infrastructure)

National Achievement Survey NAS and GAP

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## Annexure 1

## The Gunotsav Assessment and Accountability Framework

a) *Preamble*

Education is the process of human empowerment for better & higher quality of life. Primary education is the foundation on which rests the development of every citizen and the nation. In recent past the country and the state have made huge progress in terms of increasing primary education enrollment, retention, regular attendance rate and expanding literacy.

*Gunotsav* means celebration of Quality. *Gunotsav* is an accountability framework using mass assessment process that focuses on the evaluation of “quality education” and reviews utilization of basic facilities’ in schools and remedial actions to enhance the quality. The main purpose of *Gunotsav* is to make sure that all children studying in all 34000 primary schools (Std 2 to 5) across the state achieve quality improvements in basic reading, writing and numerical skills and children studying in upper primary classes (Std 6 to 8) achieve desired learning outcomes in all subjects. It is a low stake assessment program which generates awareness about quality and learning outcomes among all stakeholders.

The entire State Government machinery is mobilized to evaluate quality of primary education and to grade teachers and schools. Every year the Chief Minister, all ministers and more than 3000 officers including all top level All India Services and Class I and II State Government officials visit more than 8500 primary schools over three days to assess learning outcomes. Uniform sample coverage is ensured in all blocks and clusters. This campaign is marked by strong political will of the State leadership and commitment of all government officials.

*Gunotsav* seeks to enhance the quality of learning and its objectives are:

1. To improve quality of classroom transaction
2. Capacity Building for evaluation at school level
3. Improvement of quality in Government Schools
4. To generate awareness among teachers, parents and community
5. Assessment of Scholastic and Co-scholastic and community participation dimensions of school
6. To institutionalize system for quality improvement.

*Gunotsav* helps increase awareness for quality education in the community. It also serves as an aid for policy makers and administrators to understand the actual status of various activities and basic infrastructure in the Government schools in a better way.

b) *Implementation*

## Phases of Assessment

The initiative has now been under implementation for four years.

Strategies adopted for bringing about the transformation and positive impact:

Table I : Year wise details of various phases of assessment.

Year of Assessment	Round of Assessment	
	Self Assessment	Officer Assessment
2009	Sept & Oct, 2009	12,13,14 Nov, 2009
2010	Oct & Nov, 2010	9,10,11 Dec, 2010
2011	Oct & Nov, 2011	24,25,26 Nov, 2011
2013*	April, 2013	March - April 2014
2014	Oct 2014	Nov 2014

\* Initiative could not be executed during 2012 due to Legislative Assembly Election and self evaluation was held in April 2013

There is detailed planning for the exercise, with development of formats, conducting phase I and phase II assessments and recording, analyzing and acting upon the assessment results for remedial action.

i. *Environment Building for the actual conduct of programme*

The issue of quality education is brought to the fore through hoardings and articles in the newspapers. First-hand briefing is given on the process, attended by the Chief Minister and participating officers in Gandhinagar. Satellite based conferences are held at the district level, to disseminate the process of *Gunotsav*.

ii. *Self evaluation by schools & Officers assessment*

The State wide exercise involves self-assessment on learning levels and co-scholastic activities of all children and on the maintenance and utilization of infrastructure and stakeholder participation by the school known as Phase I. Similarly, Phase II consists of external evaluation of 25% (8500 schools) of the schools by the Chief Minister, all ministers and more than 3000 officers including all IAS, IPS, IFS and Class I & II Government officials for three consecutive days.

iii. *Self Evaluation*

About 34000 schools in Gujarat self evaluated by HM and teachers. Evaluation of learning levels, co-scholastic activities, hygiene & maintenance and utilization of infrastructure facilities.



Each school is given “School self evaluation booklets” with instruction and guidelines for conducting the assessment on scholastic, co-scholastic parameters

Self-evaluation by school comprises parameters for scholastic, co-scholastic activities carried out by the school, community participation and on the maintenance/utilization of infrastructure of the school

All students are assessed on their learning levels; by conducting assessment for reading, writing and numerical skills of all children studying in primary schools (Std 2 to 5) and subject knowledge of all children studying in upper primary sections (Std 6 to 8) for all subjects like Maths, Gujarati, English, Social Studies and Environmental Science through OMR sheets pre-printed with students' name

All teachers are mainly graded on the performance of the students in *Gunotsav* assessment and are given a unique code

Self-Assessment results are uploaded on the web portal.

iv. *Assessment by officers*

3000 Class 1 & 2 level senior officers visit and spend a full day in randomly selected schools. (3 days – 3 schools)

Uniform sample coverage is ensured in all blocks and each cluster: Visits of the officials to the schools are not predetermined. Thus all schools have to be in readiness for the assessment.

To make the process of assessment meaningful, officers and their team spend an entire day in one selected school from Morning Prayer till evening presentation by students. The officer's team visits the school with school and child wise report cards based on Self-Assessment to review the school on all aspects and discuss the school development plan. The officer's team has to reach before school time, participate in prayer session, do the school review, do co-scholastic and scholastic assessment, join the children for the mid-day meal, and review the school's basic facilities on matters of safety and utilization of resources.

Officers are given school evaluation booklets along with program sheet giving details for evaluation for particular class and subject. In officers

assessment, testing was on basic reading (Language: Gujarati and English) writing, and mathematics.

For assessment in the second phase, officers are given subject and standard wise booklets with 100 questions. Any question could be randomly selected by the officer for the evaluation. After the child assessment, class and standard wise forms are filled. The appointed Liaison officer addresses local level questions which the officer may have for child friendly assessment.

In each section of each standard a minimum of 20 children are assessed. For language- Gujarati and English - different and random paragraphs are read by children. Each child takes 2 to 3 minutes to read. Children are rated on a scale of 0 to 10 on the basis of their reading competency.

Similarly for writing and mathematics, the officers select the paragraphs and sums from the tools and the teacher reads it. The correction is done by the teachers in front of the Government officers. The Officers or other accompanying members check the written papers of 5 to 6 students evaluated by teachers for each standard. Written marks obtained by students in these tests, are recorded in the teacher evaluation form. Officers fill the marks giving details on the number of children and their gradation for each subject.

All school facilities and their use were connected to quality parameters- for example, if water facilities were assessed, the availability of drinking water in school to how waste water is being used for the school garden, use of library and computers were also observed.

After school hours, the officers and team interact with parents and school management committee SMC and take views and suggestions for educational activity in the school. This encourages the participation by parents and makes them aware on their role in school activities and SMC. At the end, cultural program is organized by the schools. The last step is to upload school evaluation information on the *Gunotsav* website- [www.gunotsav.org](http://www.gunotsav.org).

v. *Monitoring by External Parties*

The remedial teaching and enrichment program is organized after *Gunotsav*. Assessment of post *Gunotsav* Remedial class program was conducted by UNICEF. UNICEF organizes evaluation of *Gunotsav*'s follow-up program known as Remedial Teaching. UNICEF had deputed around 350 external field investigators to conduct third party audit of Remedial program. These field investigators carried out assessment of remedial program in around 3300 schools.

Pratham had evaluated the process of external Evaluation in which a team of representatives from Pratham were observing the process being carried

out at school level as part of external evaluation and they also interacted with external evaluators as well as other stakeholders too. They visited 452 sample schools to evaluate the process.

Education Initiatives conducts Diagnostic Test in 50 schools of every district (total 1300 schools in the state), just after external evaluation as part of Gunotsav to validate the data as well as to diagnose actual gap of learning outcomes. The results of diagnostic test and *Gunotsav* assessment (2012 and 2013) are of similar pattern which can be correlated positively. This positive correlation reveals the reliability of data collected through *Gunotsav*.

c) *Testing Tools and Parameters*

The process is started with designing the assessment booklets for 1st and 2nd phase. Testing tools are designed based on the text books studied by the student in the previous scholastic year. The assessments are consciously designed to test appropriate levels of conceptual understanding and their application by the children. DIET principals/ lecturers are appointed to lead the process for each subject.

More than 100 parameters across twenty thrust areas are designed to assess both scholastic and co-scholastic areas. Grading for each school was with 70% emphasis on scholastic performance and 30% for co-scholastic school activities. The schools were rated on a scale of 1 to 10. In 2013, the parameters have been changed with emphasis of 60% for scholastic outcomes, 20% for co-scholastic outcomes and 20% for outcomes related to community participation and utilization of infrastructure with grading of indicators.

The following table shows the developments in framing of question papers over 4 years.

d) *Data Scoring and Grading*

Table II : Main Domains Assessed in Gunotsav

Scholastic Activities	Co-scholastic activities	Utilization of School Infrastructure	Community participation
Reading, Writing, Maths, Science, Social Studies, English	Preparatory Yoga	Sanitation Facility	School management committee meetings
Effectiveness of textbooks	Curriculum related	Sanitation water supply	Women safety committees
Science practical book and flip chart	Scholarships	Sanitation facility	School Games - Well-being
Classroom tests and projects	Open A. Merit	Water supply and hygiene	Self Assessment (SMA)
Students Attendance		School Health	

Self-assessment: Marks obtained by each student in the self-assessment test converted on a scale of 0 to 10 by school teachers.

Table III : Difference between Gunotsav 2009, 2010, 2011 and 2013

Feature	GUNOTSAV 2009	GUNOTSAV 2010	GUNOTSAV 2011	GUNOTSAV 2013
Assessment Criteria	Score based for Schools and Officer	3-Phase based for Schools and officers	Officer based for Schools and officers	Officer based for Schools and officers based on learning outcomes
Subject Covered	English (Reading and Writing) Math	Subject wise ( Hindi, English, Civics, PE, English and Science) in 9th and 10th standard – assessed	English and Civics in 2nd and 4th grade, Hindi, English, Reading and Writing	Reading, writing and critical thinking. Class 2 to Class 7 in Hindi for Class C to D and in English
Assessment	7/10	7/10	7/10	7/10
Assessment Mode	21 questions with marks by 1000 users	Self-evaluation mode (Self & 1000 users)	Higher order skill questions in math paper used by 5000 users individually	Class 2 to 7 for 2009 and 2010 team with 32% higher order questions in educational outcomes by 10000 users. The results of 2009 and 2010 are available to each child and teachers

Officer-assessment: Based on the performance of the all the students in the classroom a ‘Score Analysis’ Form is filled in which the number of students scoring 0 to 10 in the class is entered. The school’s final grades are based on both self and officers evaluation. Schools in which only self evaluation is done are graded on the marks obtained in self evaluation and the performance of teachers and school.

e) *Uploading the scores on Gunotsav website*

Class wise and subject wise scores of all the students are uploaded on a scale of 0 to 10 by the schools and officers on the Gunotsav website on the same day. Both self-evaluation and officers assessment data are uploaded on Gunotsav portal. Data from both phases is collated, compiled and analyzed using latest information technology, and the results are shared with stakeholders enabling them to take appropriate action for identified shortfalls.

The data generates school and teacher wise report cards allowing for a process of self-reflection, underscoring that with inputs and provisions, accountability and outcomes are key indicators for successful programs. Report cards are prepared for 34,000 schools and 0.17 million teachers, Cluster Resource Centre (CRC) (4268), Block Resource Centre (BRC) (228), and Districts (26). Individual child wise assessment results with learning outcome level are available for 6.2 million children for *Gunotsav Self-Assessment* (first phase 2013) with a single click of mouse!! Both Self and officer’s evaluation led analysis of the huge data collected not only points out the areas of weakness but also windows of opportunities available in the system.

f) *Remedial Teaching Program*

*Gunotsav* is not only an assessment program but has follow-up remedial actions in at various levels starting from the individual child to the policy at

the state level. The children are given remedial as well as enrichment support in the classroom as part of remedial teaching program and training of teachers is designed according to hard spots of teaching and learning which were observed as result of *Gunotsav*. The remedial teaching program as follow-up of *Gunotsav* resulted in mainstreaming of 1.26 million students (2010), 0.56 million students (2012) and 0.46 million students (2013) through remedial classes.

g) *Online Child Tracking for Learning Outcomes*

From 2013 all the children studying in elementary school in the state are given unique ID number linked to UDISE. The assessment data of children are digitized and scholastic achievement of each child in all subjects is recorded and maintained under *Gunotsav*. The child's progress in each subject is tracked longitudinally for learning outcomes. Teacher profiling is also linked with the Child Tracking System.

h) *Online monitoring*

Online Monitoring of the students/teachers /schools and verification is done at every stage through the portal as the results of all the phase are kept public on the web-portal of *Gunotsav* ([www.gunotsava.org](http://www.gunotsava.org)). Periodic review meetings were also held at State, District and Block level.

i) *Institutionalization*

Since this is the fifth year of *Gunotsav* implementation in the state, the further plan of implementation involves institutionalization of *Gunotsav* processes which would be based on continuous monitoring and support to schools through child tracking, mentoring, peer learning, strengthening field functioning, volunteer support and deepening stakeholder participation.

j) *Stakeholder Participation*

- The strength of *Gunotsav* is that it is a State initiative with close coordination between different departments and the participation of almost the entire top brass of the State. Officers from Departments other than education are encouraged to participate in *Gunotsav* and give their perspectives and thoughts to meet the overall objectives of the program.
- The Education Department of Gujarat State, teachers, students and parents are key stake holders of *Gunotsav*. Education department plans, executes, analyzes, acts and finishes the initiative every year. There is a high level of involvement of Department of Education and its constituents, the State Council of Education Research and Training, Sarva Shiksha Abhiyan, Director Primary Education, DIET teams, Text Book Board and Industrial Extension Bureau (iNDEXTb). The self assessment process is monitored by Block Resource Centre Co-ordinator (BRCC) and Cluster Resource Centre Co-ordinator (CRCC). The web portal developed

is a store house of data for primary education in Gujarat and is used for planning annual activities at state, district and block levels. The child tracking system for learning outcomes is being developed jointly by these partners.

- The role of the Education Department is vital and begins well in advance of the actual visits during phase II. It continues till the results are known, analyzed and remedial plans are drawn and executed.
- *Gunotsav* also has enhanced stakeholder's participation with collaborative participation of organizations like UNICEF & Pratham. UNICEF organizes evaluation of *Gunotsav*'s follow-up program known as Remedial Teaching. UNICEF had deputed external field investigators to conduct third party audit of Remedial program. Pratham had participated in providing hand holding support to teachers during remedial teaching program.
- The *Gunotsav* portal acts as a resource for tracking the school, children and each block/cluster's development has been a prominent one. The portal provides the much required transparency, accountability which enables active participation and engagement from all the stakeholders. The website is simple in design and has all the relevant information related to *Gunotsav*, with instructions for each process in the local language. Web based online data is available for first phase as data is captured instantly through scanning of Self-Assessment Optical Marking Reader (OMR) sheet.
- Online monitoring and verification is done at every stage through the portal. Various districts are allocated to different officers in the Department of Education / senior management. Each officer tracks the data entry for the allocated schools of the district to ensure that the entry process is completed on time. The greatest strength of *Gunotsav* website has been prompt report generation of the assessment conducted in the two phases.
- It is a convergence model requiring very minimal use of extra funds.

## Conclusions

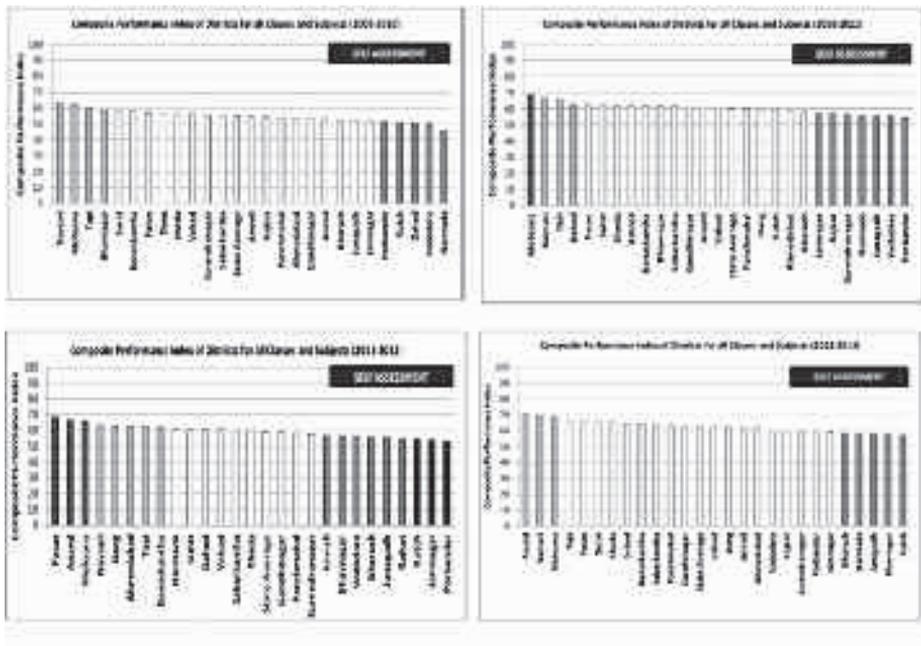
*Gunotsav* has helped the state to take a holistic stock of elementary education including learning outcomes of children, co-scholastic activities in the school, status on use of infrastructure in the school and community participation in the school. Further the department officials at all levels, teachers and community at large became sensitized regarding quality primary education. In addition to that they started working cohesively for attaining desired level of learning outcomes.

The *Gunotsav* drive assessing students, teachers and schools has now entered its fourth consecutive year of implementation. Due to awareness regarding *Gunotsav* and follow-up of the same, the number of poor performing (Scoring 0 to 2 grade

points out of 10) schools have reduced from 4.2% in 2009 to 0.4% in 2013, the number of high performing (Scoring 8 to 10 grade points out of 10) schools have increased from 1% in 2009 to 9.8% in 2013. The state could categorize teachers, schools, clusters, blocks and districts according to their performance. A comprehensive school report card is also generated according to the performance of schools in the fields of students learning outcomes, co-curricular activities, community mobilization and use of resources.

Setting the Nation Wide Agenda for Quality in Primary Education The *Gunotsav* framework and assessment process has been presented at various National forums and has been appreciated as a best practice in the 12th Five Year Planning Commission Document. Officers from other States have visited Gujarat to understand and adapt *Gunotsav* in their States, thus making quality of education and learning outcomes a central issue for their Education Departments. A mission mode integrated approach based on quality is the need of the hour.

Composite performance index of Districts across years



## Annexure 2

## The Gujarat Right to Education Rules 2012 and Learning Outcomes

The recognition of Schools under the Gujarat Right to Education Rules is based on learning outcomes with provision for relaxation of physical norms in case the school meets the standards set for learning outcomes in Rule 13. Rule 15 and Appendix 1 to the Rules outline the norms for learning outcomes and is placed below.

S.No.	Requirement in School	Weightage in assessment for recognition
1.	Student learning outcomes (absolute levels)	30%
2.	Students learning outcomes (improvement compared to the schools past performance)	40%
3.	Inputs (including facilities, teachers qualifications)	15%
4.	Student non-academic outcomes (co-curricular and sports, personality and values) and parent feedback)	15%

## Annexure 3

## School Vouchers\*

School Vouchers are being used all over the world in education. Vouchers are certificates given to parents by the state through which the parent of the child can, as per his choice, enrol the child to any schools which is eligible for such a system.

Though many classifications of vouchers are given (see West 1996), classification of different vouchers by Pablo Gonzalez et al (2004) is quite useful. They classify vouchers into five categories

1. The form in which resources are delivered: fund delivery directly to the parents or fund delivery to the schools (funds follow the child).
2. Open or restricted system for eligible schools: In open schools any school can participate while in restricted school, participation will be conditional.
3. Universal (all students) or selective student: In universal system, all families will be eligible for the benefit while in selective only poor families will have access to vouchers.
4. Flat/ lump-sum or income related vouchers: In flat system, all eligible students receive the same amount while in income related vouchers the amount of vouchers will be inversely related to the family income.
5. Only vouchers or supplementable/ top- up voucher: In only vouchers, schools can not charge additional fees from the parents while in case of top- up vouchers schools can charge additional fees above voucher amount.

According to Patrick J.Wolf (2008) Vouchers have been introduced successfully in eleven countries across world like Chile, the Ivory Coast, Sweden, USA, Denmark, Czech Republic, UK. In some countries like Netherlands, universal voucher system is in force in which every child receives vouchers on his fifth birthday. In USA in Milwaukee and other countries, poor have access to the vouchers.

World Bank (d Barrera-Osorio Felipe, Patrinos Harry Anthony, and Wodon Quentin(2009) has done an interesting analysis of the Voucher experience across the world. Weidrich Eva(2009) has also strongly advocated use of vouchers in India based on the findings of various Voucher experiences of various countries.

Experiences of two countries i.e. Chile and Columbia with regard to their voucher systems have been briefly discussed below:

## Chile's Voucher system

Universal 'funds follows the child' flat amount voucher system was introduced in 1980 by new military government to improve the standard of education and allow competition in education. The reforms were accompanied by decentralisation of primary and secondary education to local bodies and liberalization of education sector.

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*\*This Annex is based largely on the paper written by PD Vaghela (2004).*

Amount of vouchers differs for primary and higher education and also between rural and urban areas. Also the vouchers are top-up type i.e. school can charge additional fees (up to 1.6 times vouchers). The parents can choose between schools.

### Findings

There has been improvement in coverage, and quality (mixed findings) (Narodowski and Nores 2001). However, majority of poor are still in public schools while middle class and rich have moved to private voucher schools. Very rich have continued to study in unaided schools. Public schools accounts for 56% students from lowest deciles of the income. 59% students from 20% top income deciles are found in private unaided schools. Lastly, private voucher schools have attracted more students from middle class. However, one positive aspect seen is that middle class has increased their mobility towards rich by moving from public schools to private voucher schools. It can be concluded that universal voucher system has resulted into SES of the poor with middle class moving to private voucher schools closer to upper class (Gonzalez et al 2004). On the other hand, Argentina has followed the system of institutionalized subsidy towards teachers' pay of private schools instead of voucher system. The system provides exit option to the students without promoting competition between private and public schools. In Argentina exit option has been exercised by rich students in search of higher quality while poor has continued to be in public schools resulting into SES (Narodowski and Nores 2001). This shows that vouchers are not a precondition of SES.

### Colombia

Selective fixed amount vouchers limited to 33% of the bottom poor were introduced in 1991 in secondary education. The objectives were to increase enrollment and remove inequality in education. 80% fund is contributed by the government and local bodies in ratio of 80:20. Easy availability of free forms, acceptance of any legal proof of status (e.g. electricity bill), use of media to inform poor and encashment of vouchers amount by the schools at the banks are hallmark of the system. Selection is made through public raffle in case of excess application. Difference between voucher amount and actual fees is to be paid by the parents. Value of voucher was fixed taking average of fees of lower to middle-income level schools of three main cities (Bogota, Medellin and Cali).

### Findings

Performance wise more than 100,000 students has taken benefit of the scheme within five years of the scheme. A study by Angrist et al (2002) shows that voucher students have performed better in terms of years of schooling, completion of grade and student achievement. The effects on girls are larger and more precisely estimated than the effect on boys. Another study shows cost of financing has been only one third of cost of expanding public schooling; it has accounted for 10% increase in enrollment in five years- all from poor; old schools have proved of better quality than public schools and parents are satisfied. (Alberto Calderon 1996). Both studies shows usefulness of vouchers system in developing countries if

public schools are weak and private schools are well developed. The experiment is not without problems though. World Bank report on poverty in Colombia has shown concern on substitution of public education by private education. However one objective of vouchers was equitable access of poor to quality education. Secondly, quality problem in many new private schools has been experienced due to profiteering. This risk is always there if care is not taken in form of an exhaustive system of contracts, standards and evaluation. The government has now come up with monitoring mechanism to weed out such 'pirate schools'. Thirdly, there has been problem of finance as local bodies have not been able to contribute regularly their 20% contribution.

Education is a complex and sensitive issue. Reforms are slow and difficult to implement (Boyd 1998). Any system should consider the four variables which are education quality, geographical variables, institutional characteristics of the schools and socioeconomic variables. Secondly, Vouchers cannot be introduced blindly. Many studies have done on vouchers. However, the findings are mixed and at the most confusing (Boyd 1998). The basic problem has been problem of data selection and handling the effects of other variables. A turf battle of ideology among various academicians can be seen (Boyd 1998). However experience of Colombia shows that vouchers can improve quality of education where quality difference between public and private schools is marked and private sector is well developed. Introduction of vouchers requires careful consideration with regard to transaction costs and information costs (Carnoy (1997). Vouchers especially universal ones require funds (Carnoy 1997). Careful consideration of costs and benefits is needed. In USA and other developed countries emphasis is more on parental choice. In developing countries, issues of costs, quality, coverage, and access to quality education for the poor assume importance. It is interesting to note that even critics accept utility of vouchers in ensuring access and allowing choice to poor (Colin 2005, Carnoy 1997). Design and context are more important. Some broad conclusions can be drawn from the global experience of vouchers and case studies of Chile and Colombia:

- 1) Monitoring of private schools (so that quality do not suffer due to profit preoccupation) is necessary.
- 2) Universal vouchers can result into SES and inequity. However it can occur in any system and vouchers is not a necessary pre-condition.
- 3) The issue of vouchers can be seen from two points of view. Vouchers can be used as instrument to encourage privatization as against public education. Secondly, it can also be used as an instrument where significant privatization is already there. Vouchers need to be seen as an instrument to be used for social integration and equal access and not merely as an instrument that encourages privatization.
- 4) Other factors like peer selection by parents, additional fees, selection of income class parents by schools, and transportation cost can also create segregation. Vouchers design should consider these factors.

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# India's Skills Development Programme -Addressing Deficits

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## Abstract

*A large young population is an important asset for a nation if adequately skilled and helps the economy both on supply and demand side. India has set a target of skilling 500 millions by 2022 to make its potential demographic dividend a reality. It is a massive task. At least ten lakh youngsters enter the job market every month. There is also huge skill and productivity deficit in workers currently under employed or working at abysmally low productivity. The policy, the programme and the institutional set up requires an architecture which can take care of both the scale and diversity (geographical, social, economic and gender) in the country.*

## Present Structure

Government of India (GOI) had taken cognizance of the issue in 2009. National Policy on Skill Development was approved and Prime Minister's National Council on Skill Development (NCSD), National Skill Development Corporation (NSDC) and Office of the Advisor to PM on Skills were established. State Skill Development Missions were promoted in states with a mandate to promote skill training. In July 2014, GOI established the Skills Ministry and NSDC (earlier under administrative control of Ministry of Finance) and NSDA (which subsumed NSD Council and office of PM's Advisor) have been moved to this Ministry. The National Skills Qualification Framework (NSQF) as a credit based multi entry-multi exist system of education has been approved in December 2013 mandating all skill providers and certifiers to align their curricula and standards to that of NSQF over next three years. Employers have been involved by NSDC through 22 SSCs who have finalized 879 Qualification Packs (QPs) and 2247 National Occupational Standards (NOSs) which primarily set the standards for training.

## Challenges

- a) Availability of a reliable skill- gap analysis for proper micro-planning in areas/sectors where trained persons can get absorbed in jobs or in productive self employment.
- b) Collaboration among employers and training providers has been globally found to minimize the wastage of training imparted. The SSCs representing the employer are yet to get activated in many sectors. The NOSs and QP prepared by Sector Skills Councils (SSCs) are currently limited to entry level job roles corresponding primarily to NSQF Level.

- c) School education, the foundation for adult work has failed to deliver core generic skills of communication, thinking, analysis and drive for excellence. Learning deficit in terms of grade appropriate competencies is massive.
- d) Supply of higher education facility is not linked to employment.
- e) Standardization, quality assurance and shift from knowledge to competence based skill training in curriculum design, training transaction and assessment is a big challenge.
- f) Skill trainers and assessors must combine the theoretical knowledge and practical industry experience. The eligibility conditions for their formal certification and recruitment rules need to alter accordingly, requiring a complete review of current framework.
- g) Heavy investment and time lag in creating new formal training institutions.
- h) Negative public perception about children opting for vocational education except at tertiary level (e.g. medicine, engineering, architecture etc).
- i) Alignment of all existing parallel qualification frameworks with NSQF which permits open entry and exit system and flexibility to move across sectors and between formal and vocational education.
- j) Outdated and restrictive regulatory frameworks in various sectors which do not recognize the need for expansion of existing job roles and more seriously, do not acknowledge the existence or need for several other assistive or complementary roles (example of allied health sector personnel).
- k) Finding resources to finance skill development. Individuals do not have resources. Employers do not want to pay for training and individuals do not have sufficient resources. Bank financing is also not available to a trainee who is still unemployed. Acceptable solutions need to be found for the same.

### Approach

Building on existing strengths, capacities and infrastructure would be the major guiding principle in achieving goal of skill development. The task is massive and time very short. Rather than creating parallel systems we need to transform the existing schools, ITIs, polytechnics, colleges and universities to impart skills to existing students and dropouts who are currently employed or in waiting. They can offer skill training as applied learning subjects in regular streams, applied learning streams in addition to existing ones and running institutions in multi shifts or on holidays for separate clientele. Existing teaching/learning/assessment materials created by National Council for Vocational Training (NCVT)/ State Council for Vocational Training (SCVT), by NGOs and implementing partners in nearly 80 schemes run by 19 ministries and NSDC STAR programme and materials prepared for Modular Employability Skills (MES) can be screened/adapted and brought in conformity with NOSs.

## Proposals

- a) A dynamic and accurate skill gap survey is the first step to successful skill development and absorption of trained labour force. NSDC survey tool can be further adapted and shared with departments, SSCs and skill providers. NSDC survey reports will be updated and validated with fresh inputs<sup>1</sup>.
- b) Focus needed on additional sectors like Agriculture & allied, textiles which remain major employment sectors. Similarly urban basic services management is an unserved area. In-situ productivity enhancing skill training will push employment and growth from supply side in these sectors<sup>2</sup>.
- c) Skill training, like education needs to be driven by the states. It is to be delivered in the states which are geographically, socially, and economically diverse units. Training has to cater to local needs, demands and aspirations. GOI can support through knowledge-exchange, help in establishing systems and processes and provide for innovative financing mechanisms for institutions and individuals. The states have to energize their local machinery. Creating jobs is a serious political agenda and can be used to push elected representatives to make skill training a priority agenda by giving them a comparative feedback on training capacity and numbers constituency wise.
- d) Coordination and Knowledge Sharing responsibility will be discharged by Skills Ministry at federal level, and SDMs at state level. National Skill Development Agency (NSDA)/ (NSDC) can become knowledge repositories and exchanges as the states have little capacity and exposure to national/global best practices. This execution deficit at state level<sup>3</sup> has to be adequately filled with support from the Skills Ministry.
- e) Institutional development of State Skill Development Mission (SSDMs) as key drivers of the programme through proper design, finance and professional manpower partially drawn from employers. The continuity and expertise of the implementation team are also of key significance NSDA may draw on experience of Sarva Shiksha Abhiyan and Rashtriya Madhyamik Shiksha Abhiyan (SSA-RMSA) implementation framework and initiate consultation with states and SSCs.
- f) A Center of Excellence in Skills in each state (at the pattern of Singapore IIE)- to impart high quality skill training at large scale with most modern methods and equipment in PPP mode should be promoted. Quality assurance, standard setting, preparation of trainers and assessors, development of digital materials are other responsibilities which it can discharge.
- g) Regulatory framework of every sector for education/ certification requirements will be reviewed to bring it in conformity with modern needs and suitable for challenges of skilling. Appropriate skills should be the goal post. The eligibility requirements for entry into government jobs should also be linked to certification obtained under NSQF to raise its acceptance by employers as well as trainees.

- h) Ministry of Labour and Employment (MOLE) should push for amendments in Apprenticeship Act to enable workplace training. NSQF requirement of “on the job training” should simultaneously be fulfilled by locally notifying relevant local shops and establishments as practical training centers linked to educational institutions. This will facilitate better integration, customized training and absorption of trained persons.
- i) Proactive identification of emerging needs- as per pattern followed by Gujarat for linking establishment of any new industry with training of local youth by creating temporary training facility in existing ITI or a new one is a good practice that should be shared with all states.
- j) Special institutional financing options (loans) on easy terms should be made available to individuals and institutions. STAR scheme pattern of NSDC for financing on successful completion of training can be followed. Large sums of money available under Mahatma Gandhi National Rural Employment Guarantee Scheme (MNREGS) etc may be shifted to skill training. Skill training in context such as ours is indeed a public good deserving promotion through budgetary allocation. Rest of the space will be filled by private players as the scheme and NSQF stabilizes.

Monitoring and Convergence Mechanisms need to be constituted on priority in consultation with all stakeholders like other ministries, employers and states for rationalizing existing scheme norms, adoption of NSQF and achieving scale.

## Conclusion

The goal of making the youth employable and conversion of demographic event into a demographic dividend can be adequately addressed if institutional framework is suitably modified to accept this challenge and the work is driven in mission mode. Entire work has to be seen as a continuum where quality of elementary education improves, applied learning becomes the mainstream education, infrastructure is used to its full capacity for serving various categories of clients, workplaces double up as training centers and entrepreneurs are facilitated to set up establishments which absorb skilled personnel.

\*The authors are senior officers of the Indian Administrative Service who underwent the Phase V course of the Mid-Career Training Programme at the Academy in October-November 2014.

## Annexure 1

- 1 The skill gap survey procedure adopted by Health Ministry can be shared as a SOP to be followed by other ministries to identify skill shortages that restrict respective sectoral growth.
- 2 For example, manpower for high value agriculture, organic farming floriculture, horticulture, new seed preparation ,irrigation and fertilizer application practices, value chain for agricultural processing and marketing, soil analysts, improved dairy ,fisheries and poultry activities etc have huge growth potential. With fast urbanization the city services including waste management, water conservation and recycling, sanitation and hygiene have not kept pace making our cities dirty and polluted. Infrastructure development and logistics are some major areas where jobs are likely to arise and supply of trained manpower may push their pace.
- 3 The State Education Boards, the SCVTs, the state Universities have not built capacities for competence based education, or preparing training materials in consultation with employers and have little exposure in workplace assignments or placements. The states need to build adequate managerial and technical capacities to execute training programmes at large scale which are in demand, which are employment oriented, build required competences and help trainees get jobs quickly.

## Policy Brief on Food Security

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### Abstract

*The National Food Security Act, 2013 (NFSA), giving Right to Food at subsidized prices to nearly 2/3rd priority households of the country including Antyodaya Anna Yojana (AAY) households under Targeted Public Distribution System (TPDS), is being viewed with serious concerns. Its features like excessive and not need-based population coverage, reduction in entitlement of Below Poverty Line (BPL) families covered earlier under TPDS, enormous subsidy burden and poor enforceability of various provisions of the Act are being debated all over. Even though the assigned period of one year is over, many States have not implemented it. Among the eleven States, that have implemented it, none have followed its provisions in true spirit. Indeed the open-ended procurement by FCI & State Agencies leading to excess public stock in Central Pool, market distortions caused by MSP and Bonus/ higher taxation in some States, high transit/ storage losses in FCI due to inefficient storage management, handling and movement of food grains etc. are other major areas of concern (Details at Annexure-I to X). Recommendations of the Commission on Agricultural Costs & Prices (CACP) & Parliamentary Committee etc. to cap the procurement at appropriate level, especially in the States where bonus is being given or level of taxation is high (Annexure-XI) could not be implemented so far, as any restriction may be viewed as anti-farmer move.*

### Current Situation

Inclusion or exclusion errors in beneficiaries lists and leakage/ diversion of food grains, pose a serious challenge in implementation of food security programmes (Annex-XII). Some State Governments have pilot tested a number of reform measures to improve TPDS Operations and a provision for universal implementation of such reforms across the States has been made under Section 12 of the NFSA (Annex-XIII). However, implementation of these reforms is very tardy and ineffective even in the States, where NFSA has been implemented.

### Identification of Policy Alternatives

No doubt, a country like India, having a sizable undernourished population and nearly a quarter of the people living below poverty line, needs to have a robust food security programme, but looking at the drawbacks of ongoing TPDS Programme, the ambitious goal of NFSA is likely to remain unachieved, unless radical changes are made in the Act with respect to population coverage/ entitlements and enforceability of its various provisions.

On implementation side, one alternative could be to continue with the ongoing TPDS in its present shape under NFSA and implement reforms to ensure efficient

and proper delivery of benefits. This would also require strengthening of procurement operations, better management of public stocks and online supply chain management. Another alternative could be to give farmers income support or production incentive instead of market distorting price support and put a mechanism in place for Direct Benefit Transfer (DBT) to the targeted beneficiaries, so that they can purchase foodstuffs of their requirement from the open market.

There could also be a mixed model, wherein Government can implement the DBT but continue with the price support to the farmers, maintain buffer stock and make available food grains for purchase by the beneficiaries at full cost through the authorized/ registered dealers to ensure sustainability of the programme. Another kind of mixed model could be, wherein Government may implement DBT and let consumers buy foodstuffs of their choice from the open market in the areas/districts where markets are fairly functional, but still maintain some limited buffer stock for making food grains physically available to the beneficiaries through the authorized dealers in hilly, difficult and remote areas, where markets are not developed.

#### Evaluation of Policy Alternatives

On the basis of discussion the group found that, the population coverage under NFSA must be revised to make the food security programme need-based and financially affordable. The entitlement for BPL families is also required to be reviewed. The provision for a fixed coverage till next Census looks inappropriate, as with the reduction in the level of poverty and mitigation of hunger and undernourishment in the country, there should be an opportunity for the Government to scale down the coverage. Such a rationalization of coverage & entitlement will make NFSA more pragmatic, implementable and sustainable.

The Group has concluded that the continuation of ongoing open ended Price Support Operations and faulty TPDS is not advisable, rather DBT should be implemented with freedom to people to buy the foodstuffs of their choice from open market. However, this approach may not be suitable for hilly, difficult and remote areas due to asymmetrical market situation, therefore, existing arrangement of TPDS may be continued in such areas along with implementation of DBT and people may be provided food grains out of buffer stock through authorized dealers. The Group has also felt that providing income support or production incentive to farmers will be a better strategy and existing price support mechanism may be limited to only small & marginal farmers with better outreach of procurement machinery to them, especially in areas where the system is weak at present and Government is trying to increase productivity of food grains through special programmes like NFSM & RKVY/ BGREI.

#### Assessment of the Policy Environment

With a faster growth and reform-oriented new Government in place in the Centre, this perhaps is the most opportune time to make a radical change in the existing arrangement and to revamp the food security system of India. The current level of food subsidy burden on the Government and increasing budgetary deficit,

overflowing Government granaries, tardy implementation of NFSA & TPDS reforms give us sufficient reason to implement big ticket reforms in this sector. However, the change will have to be adopted with care and taking State Governments into confidence, so that, it is not termed as anti-poor or anti-farmer policy.

### Policy Recommendations

Re-visit entitlement under NFSA, 2013 including population coverage, quantity of foodgrains allowed, sale price etc. and restore/ improve entitlement of BPL families. Have a dynamic approach with respect to coverage that can enable the Government to taper it off over a period of time with the reduction in levels of poverty in various States.

Incentivise the States for time - bound implementation of end to end computerization of TPDS operations, online management of food supply chain, grievance redressal mechanism and other reform measures provided under Section 12 (2) of NFSA. Further, best practices that have been pilot - tested by the States like Chhattisgarh, Karnataka, Gujarat, Tamil Nadu etc. should be scaled up and extended to other States.

Devise and implement a suitable plan to switch over to Direct Benefit Transfer of food subsidy to the targeted beneficiaries linked with Aadhar Card based identification. This could be started from the urban areas of major food grains producing States and gradually extended to other urban areas and rural areas. Beneficiaries should be allowed to purchase cereals or other nutritional foodstuffs of their requirement from the open market. However, physical distribution of food grains through ration shops linked with DBT may be retained for hilly, remote and difficult areas identified by the respective State Governments. Public stockholding should be limited accordingly.

Limit the Price Support Mechanism to cover the price risk of small & marginal farmers only and provide insurance coverage to them to take care of their production risk.

Improve yield and thereby production of food grains in low productivity areas by providing suitable inputs to the farmers and knowledge for adoption of technology & crop protection.

Strengthen market infrastructure and procurement operations in the areas where small & marginal farmers are facing distress sale. The initiatives taken by the States like Madhya Pradesh, Chhattisgarh and Odisha in improving the procurement operations through wider outreach and computerized management can be replicated in other States by giving suitable incentives. Procurement should be done in decentralized mode only to reduce States' interface with FCI, strengthen the system, integrate the supply chain and save costs. The outlived and corruption riddled levy system for procurement of rice should be completely abolished.

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Outsource quality control mechanism of procurement operations of State Agencies and FCI to suitable private agencies to bring in efficiency in procurement operations, improve quality of food grains being procured/ distributed and reduce corrupt practices involved in it.

Limit public stockholding in Central Pool at the desired level as per buffer norms and to make standing arrangement in FCI for time bound disposal of any surplus quantity procured by the States to avoid excessive public stockholding.

Improve logistics facilities by constructing modern silos and setting up bulk handling and bulk transportation systems to link them up in PPP Mode. FCI should modernize its depots either directly or in PPP Mode and should reconstruct or operationalise its functional/non-functional existing silos in PPP Mode. Warehousing Operations of FCI and State Agencies should be made online for transparent & efficient management of food grains and reduction of storage losses. Farmers should be encouraged to store their produce in WDRA accredited warehouses to avail the benefit of NWRs and opt for deferred sale to FCI in case of distress.

\*The authors are senior officers of the Indian Administrative Service who underwent the Phase V course of the Mid-Career Training Programme at the Academy in October- November 2014.

## Annexure 1

## Entitlement of Foodgrains for Various Categories of Beneficiaries &amp; Issue Price

Category	Entitlement	Issue Price
<b><u>Ongoing TPDS</u></b>		
<b>AAY</b>	35 Kg./ family/ month	Rice -Rs. 3/ Kg./ month
		Wheat -Rs. 2/ Kg./ month
		Coarsegrains -Rs. 1.50/ Kg./ month
<b>BPL</b>	35 Kg./ family/ month	Rice -Rs. 5.65/ Kg./ month
		Wheat -Rs. 4.15/ Kg./ month
		Coarsegrains -Rs. 3/ Kg./ month
<b>APL</b>	10 Kg./ family/ month	Rice -Rs. 8.30/ Kg./ month
		Wheat -Rs. 6.10/ Kg./ month
		Coarsegrains -Rs. 4.50/ Kg./ month
<b><u>NFSA</u></b>		
<b>AAY</b>	35 Kg./ family/ month	Rice -Rs. 3/ Kg./ month
		Wheat -Rs. 2/ Kg./ month
		Coarsegrains -Rs. 1/ Kg./ month
<b>PRIORITY HOUSEHOLDS</b>	5 Kg./ person/ month	Rice -Rs. 3/ Kg./ month
		Wheat -Rs. 2/ Kg./ month
		Coarsegrains -Rs. 1/ Kg./ month

## Annexure 2

## Summary of Important Provisions of NFSA 2013

Under the NFSA, right to foodgrains at very subsidized prices has been provided to priority households of the country including the erstwhile beneficiaries of Antyodaya Anna Yojana of 2000. The entitlement of the eligible households under the Act extends upto 75% of the rural population and upto 50% of the urban population of the country with uniform provision of 5 Kg foodgrains per person per month. For AAY households, the entitlement has been retained at the level of 35 Kg per household as before. The state-wise coverage of eligible population has been determined by the Government based on the formula of Planning Commission which rests on 2011-12 NSSO Household Consumption Expenditure Survey Data. In case the population covered under TPDS in a State by the Ministry of Food does not get covered as per this formula under NFSA, then there is provision to protect the current allocation of foodgrains of the State concerned to the extent of average offtake in the State under TPDS during three previous years. The ration card is required to be preferably issued to the eldest woman of above 18 years of age in each eligible household.

The issue price of foodgrains under NFSA has been kept at Rs.3 per Kg for Rice, Rs.2 per Kg for wheat and Rs.1 per Kg for coarsegrains. In case, the Government is not able to provide foodgrains to a beneficiary as per his entitlement, it is liable to pay a food security allowance to such beneficiary. NFSA also provides for the entitlement of free meal to pregnant women and lactating mothers (upto 6 months after the child birth) and also to the children of the age group of 6 months to 6 years and other identified children suffering from malnutrition through the Anganwadis set up under the Integrated Child Development Scheme (ICDS) and one free mid-day meal to the children of upto class VIII or of the age group of 6-14 years under the Mid-Day Meal (MDM) scheme. Unemployed pregnant and lactating mothers are entitled for maternity benefit @not less than Rs. 6000 to be paid in instalments.

The State Governments are required to place the list of the identified eligible households in the public domain and display it prominently. NFSA further provides for reform measures to be implemented by the Central and State Governments for implementing TPDS and setting up of a robust grievance redressal mechanism. State Governments should also set up State Food Commissions for the purpose of monitoring and review of implementation of the Act.

## Annexure 3

## State-wise percentage coverage under NFSA

Sl. No.	State/UT	Percentage coverage of Population based on 2011-12 NSSO data	
		Rural	Urban
1	ANDHRA PRADESH	60.96	41.14
2	ARUNACHAL PRADESH	66.31	51.55
3	ASSAM	84.17	60.35
4	BIHAR	85.12	74.53
5	CHHATTISGARH	84.25	59.98
6	NCT OF DELHI	37.69	43.59
7	GOA	42.24	33.02
8	GUJARAT	74.64	48.25
9	HARYANA	54.61	41.05
10	HIMACHAL PRADESH	56.23	30.99
11	JAMMU & KASHMIR	63.55	47.10
12	JHARKHAND	86.48	60.20
13	KARNATAKA	76.04	49.36
14	KERALA	52.63	39.50
15	MADHYA PRADESH	80.10	62.61
16	MAHARASHTRA	76.32	45.34
17	MANIPUR	88.56	85.75
18	MEGHALAYA	77.79	50.87
19	MIZORAM	81.88	48.60
20	NAGALAND	79.83	61.98
21	ODISHA	82.17	55.77
22	PUNJAB	54.79	44.83
23	RAJASTHAN	69.09	53.00
24	SIKKIM	75.74	40.36
25	TAMIL NADU	62.55	37.79
26	TRIPURA	74.75	49.54
27	UTTAR PRADESH	79.56	64.43
28	UTTARAKHAND	65.26	52.05
29	WEST BENGAL	74.47	47.55
30	A & N ISLANDS	24.94	1.70
31	CHANDIGARH	38.54	47.26
32	DADRA & NAGAR HAVELI	84.19	51.54
33	DAMAN & DIU	26.66	56.47
34	LAKSHADWEEP	35.30	33.56
35	PUDUCHERRY	59.68	46.94
	<b>ALL INDIA</b>	<b>75.00</b>	<b>50.00</b>

## Annexure 4

State-wise Foodgrain Allocations under NFSA vis-à-vis existing allocation/ offtake under TPDS  
(in lakh tons)

Sl. No.	State/UT	Average annual Offtake*	Estmtd. Allocation under NFSA	Change under NFSA over existing offtake	Higher of the two
<b>States/UTs gaining under NFSA in terms of allocation</b>					
1	UTTAR PRADESH	65.90	96.15	30.25	96.15
2	BIHAR	27.89	55.27	27.38	55.27
3	GUJARAT	13.47	23.95	10.48	23.95
4	MAHARASHTRA	36.50	45.02	8.51	45.02
5	RAJASTHAN	20.55	27.92	7.37	27.92
6	JHARKHAND	10.11	16.96	6.85	16.96
7	MADHYA PRADESH	29.71	34.68	4.97	34.68
8	WEST BENGAL	34.08	38.49	4.41	38.49
9	KARNATAKA	22.24	25.56	3.32	25.56
10	HARYANA	5.55	7.95	2.40	7.95
11	PUNJAB	6.60	8.70	2.10	8.70
12	CHHATTISGARH	11.33	12.91	1.58	12.91
13	ORISSA	20.77	21.09	0.32	21.09
14	MANIPUR	1.30	1.58	0.28	1.58
15	DADRA & NAGAR HAVELI	0.08	0.15	0.07	0.15
16	DAMAN & DIU	0.03	0.07	0.04	0.07
17	CHANDIGARH	0.31	0.31	0.00	0.31
<b>Total of States gaining</b>		<b>306.41</b>	<b>416.69</b>	<b>110.28</b>	<b>416.77</b>
<b>States/UTs loosing under NFSA in terms of allocation</b>					
18	LAKSHADWEEP	0.05	0.01	-0.04	0.05
19	PUDUCHERRY	0.50	0.42	-0.08	0.50
20	A & N ISLANDS	0.16	0.05	-0.11	0.16
21	SIKKIM	0.44	0.26	-0.18	0.44
22	MIZORAM	0.66	0.45	-0.20	0.66
23	GOA	0.59	0.34	-0.25	0.59
24	ARUNACHAL PRADESH	0.89	0.57	-0.32	0.89
25	MEGHALAYA	1.76	1.37	-0.39	1.76
26	NAGALAND	1.38	0.94	-0.44	1.38
27	ASSAM	16.95	15.96	-0.99	16.95
28	TRIPURA	2.71	1.64	-1.08	2.71
29	UTTARAKHAND	5.03	3.95	-1.09	5.03
30	NCT OF DELHI	5.73	4.56	-1.18	5.73
31	ANDHRA PRADESH	32.10	29.47	-2.63	32.10
32	HIMACHAL PRADESH	5.08	2.45	-2.63	5.08
33	JAMMU & KASHMIR	7.51	4.79	-2.72	7.51
34	KERALA	14.25	10.00	-4.25	14.25
35	TAMIL NADU	36.78	24.12	-12.66	36.78
<b>Total of States loosing</b>		<b>132.58</b>	<b>101.34</b>	<b>-31.24</b>	<b>132.58</b>
<b>GRAND TOTAL</b>		<b>439.00</b>	<b>518.03</b>	<b>79.04</b>	<b>549.35</b>

\* Annual average allocation under normal TPDS during 2010-11 to 2012-13, does not include addl. BPL allocation or other adhoc/special allocations

## Annexure 5

## Estimated Requirement of Food grains &amp; Food Subsidy under NFSA

<b>I. Existing TPDS (including OWS)</b>			
	<b>Wheat</b>	<b>Rice</b>	<b>Total</b>
<b>A. Foodgrain Requirement (in lakh tons)</b>	262.7	301.0	563.7
<b>B. Estimated Subsidy (Rs. in crore)</b>	39024.9	64789.3	103814.2
<b>II. NFSA - 75% and 50% coverage in Rural/Urban areas at all India level and State-wise coverage based on inclusion ratios provided by Planning Commission</b>			
<b>A. Foodgrain Requirement (lakh tons)</b>			
Total reqt. @ 5 kg per person for included population	219.6	268.4	488.0
Additional for protecting allocation of 2.50 crore AAY households @ 7 kg per person	13.5	16.5	30.0
Additional 'tide over' allocation for protecting the average annual offtake of States*	14.1	17.2	31.3
Estimated requirement For OWS	29.2	35.8	65.0
<b>Total Estimated Requirement</b>	<b>276.4</b>	<b>337.9</b>	<b>614.3</b>
<b>B. Economic Cost and Per Unit Subsidy (Rs.per ton)</b>			
Eco. Cost (BE 2014-15)- Rs./ton	19937.2	27557.7	
Issue Price –Rs./ton (TPDS)	2000	3000	
Issue Price –Rs./ton(for 'tide over' allocation; existing APL price)	6100	8300	
Per Unit Subsidy –Rs./ton (TPDS)	17937	24557.7	
Per Unit Subsidy –Rs./ton (for 'tide over' allocation)	13837	19257.7	
<b>C. Estimated Subsidy (Rs. in Crore)</b>			
for included population	39396.9	65925.0	105321.9
Additional for protecting allocation of AAY households	2421.5	4052.0	6473.5
<b>Additional for 'tide over' allocation</b>	<b>1948.9</b>	<b>3315.2</b>	<b>5264.1</b>
For OWS	5246.6	8779.4	14026.0
<b>Total Estimated Subsidy</b>	<b>49013.9</b>	<b>82071.6</b>	<b>131085.5</b>
* Average of three years (2010-11 to 2012-13)			
Notes: 1. Estimates are based on 2011 population and costs for 2014-15.			
2. Basis for distribution of total foodgrain requirement into rice and wheat:			
<b>Existing TPDS:</b> 66:34 (rice : wheat) for BPL and OWS allocations and 34:66 (rice : wheat) for APL allocations			
<b>NFSA:</b> On an average, the share of rice and wheat in total foodgrains allocation under TPDS during last three years (2009-10 to 2011-12) has been 53.6% and 46.4% respectively. In total procurement of rice and wheat during 2007-08 to 2011-12 the shares of rice and wheat, on an average, has been 54.5% and 45.5% respectively. Accordingly, the rice : wheat ratio for the total foodgrains requirement has been assumed to be 55:45.			

## Annexure 6

State-wise Production and Procurement of Wheat during last five years  
(In Lakh Tonnes)

STATE	Production (Crop Year)					Procurement (RMS)#					% Procurement							
	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
PUNJAB	157.53	152.63	164.72	172.8	165.91	170.35	107.25	102.05	109.58	128.34	108.97	116.41	68.08	66.86	66.53	74.27	65.68	68.34
HARYANA	105.93	105	116.3	126.86	111.17	118.00	69.24	63.35	69.28	86.65	58.73	64.95	65.36	60.33	59.57	68.30	52.83	55.04
UTTAR PRADESH	285.64	278.1	300.01	302.93	303.02	302.46	38.82	16.73	34.61	50.63	6.82	5.99	13.59	6.02	11.54	16.71	2.25	1.98
MADHYA PRADESH	65.22	78.46	76.27	115.39	131.33	139.28	19.68	35.38	49.65	84.93	63.55	70.94	30.17	45.09	65.10	73.60	48.39	50.93
BIHAR	43.96	46.23	40.98	47.25	53.57	50.81	4.96	1.83	5.56	7.72	0	0	11.28	3.96	13.57	16.34	0.00	0.00
RAJASTHAN	69.99	68.27	72.15	93.2	92.76	89.22	11.52	4.76	13.03	19.64	12.68	21.59	16.46	6.97	18.06	21.07	13.67	24.20
UTTARAKHAND	8.56	8.37	8.78	8.78	8.58	8.44	1.45	0.86	0.42	1.39	0.05	0.01	16.94	10.27	4.78	15.83	0.58	0.12
GUJARAT	28.97	26.48	40.2	40.72	29.44	36.51	0.75	3.67	1.05	1.56	0	0	2.59	13.86	2.61	3.83	0.00	0.00
MAHARASHTRA	14.71	17.57	23.01	13.13	11.81	16.02	--	--	--	0.03	0	0	0.00	--	--	0.23	0.00	0.00
WEST BENGAL	7.98	8.37	8.74	8.73	8.96	9.47	--	0.09	--	0.02	0.02	0	--	1.08	--	0.23	0.22	0.00
ALL INDIA TOTAL	806.8	808	868.7	948.82	935.07	959.1	253.8	225.14	283.85	381.48	250.9	279.9	31.46	27.86	32.67	40.21	26.83	29.19

# Shows crop year from Oct to Sept. RMS for wheat is succeeding year, e.g., Crop Year 2011-12 corresponds to RMS 2012-13

## Annexure 7

## State-wise Production and Procurement of Rice during last five years

STATE	Production (Crop Year)										Procurement (KMS)					% of Procurement Against Production				
	2009-10	2010-11	2011-12	2012-13	2013-14	2009-10	2010-11	2011-12	2012-13	2013-14	2009-10	2010-11	2011-12	2012-13	2013-14	2009-10	2010-11	2011-12	2012-13	2013-14
	ANDHRA PRADESH	105.38	144.18	128.95	115.1	130.27	75.4	96.09	75.42	64.86	37.32	71.55	66.65	58.49	56.35	28.65				
TELANGANA										43.51										
ASSAM	43.96	47.37	45.16	51.29	47.78	0.08	0.16	0.23	0.2	0.002	0.18	0.34	0.51	0.39	0.00					
BIHAR	35.99	31.02	71.63	75.29	55.08	8.9	8.83	15.34	13.03	9.42	24.73	28.47	21.42	17.31	17.10					
CHHATTISGARH	4.11	61.59	60.28	66.09	67.16	33.51	37.46	41.15	48.04	42.9	81.53	60.82	68.26	72.69	63.88					
GUJARAT	12.92	14.97	17.9	15.41	16.16	0	0	0.04	0.0008	0	0.00	0.00	0.22	0.01	0.00					
HARYANA	36.25	34.72	37.59	39.76	39.98	18.19	16.87	20.07	26.09	24.06	50.18	48.59	53.39	65.62	60.18					
HIMACHAL PRADESH	1.06	1.29	1.32	1.25	1.33	0	0.05	0.05	0.00723	0	0.00	3.88	3.79	0.58	0.00					
JHARKHAND	15.38	11.1	31.31	31.65	27.41	0.23	0.002	2.75	2.15	0.003	1.50	0.02	8.78	6.79	0.01					
KARNATAKA	36.91	41.88	39.55	33.64	37.58	0.86	1.8	3.56	0.59	0	2.33	4.30	9.00	1.75	0.00					
KERALA	5.98	5.23	5.69	5.08	5.09	2.61	2.63	3.76	2.4	3.59	43.65	50.29	66.08	47.24	70.53					
MADHYA PRADESH	12.61	17.72	22.27	27.75	27.81	2.14	5.16	6.35	8.98	10.45	16.97	29.12	28.51	32.36	37.58					
MAHARASHTRA	21.83	26.96	28.41	30.57	29.46	2.2	3.08	1.78	1.92	1.61	10.08	11.42	6.27	6.28	5.47					
ODISHA	69.18	68.28	58.07	72.95	75.84	24.96	24.65	28.66	36.14	28.19	36.08	36.10	49.35	49.54	37.17					
PUNJAB	112.36	108.37	105.42	113.74	112.67	92.75	86.35	77.31	85.58	81.06	82.55	79.68	73.34	75.24	71.94					
RAJASTHAN	2.28	2.66	2.53	2.23	3.13	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00					
TAMIL NADU	56.65	57.92	74.59	40.5	55.37	12.41	15.43	15.96	4.81	6.84	21.91	26.64	21.40	11.88	12.35					
UTTAR PRADESH	108.07	119.92	140.22	144.16	146.28	27.26	25.54	33.57	22.86	11.27	25.22	21.30	23.94	15.86	7.70					
UTTARAKHAND	6.08	5.5	5.94	5.8	5.79	3.75	4.22	3.78	4.97	4.63	61.68	76.73	63.64	85.69	79.97					
WEST BENGAL	143.4	130.46	146.06	150.24	153.14	12.4	13.1	20.41	17.66	12.8	8.65	10.04	13.97	11.75	8.36					
ALL INDIA TOTAL	890.93	959.8	1053.01	1052.41	1065.40	320.32	341.98	350.41	340.44	317.77	35.95	35.63	33.28	32.35	29.83					

## Annexure 8

## Expenditure on Food Subsidy in Last 10 Years

Year	FCI	DCP States	Total
2004-05	23280.00	2466.45	25746.45
2005-06	19871.00	3200.00	23071.00
2006-07	20786.21	3041.38	23827.59
2007-08	27759.68	3500.00	31259.68
2008-09	36744.10	6923.98	43668.08
2009-10	46867.14	11375.31	58242.45
2010-11	50729.56	12200.00	62929.56
2011-12	59525.90	12845.00	72370.90
2012-13	71980.00	12574.00	84554.00
2013-14	75500.02	14240.00	89740.02
2014-15 (BE)	92000.00	18500.00	110500.00

Source: Department of Food & Public Distribution, Government of India.

## Annexure 9

## Projected Requirement of Food Subsidy for Next Five Years

(In Crore Rs.)

Years	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
<b>Subsidy for FCI as per projection made by the Corporation</b>	147730*	119348	130320	137895	145678	153714
<b>Subsidy for DCP States as per projections made by the Deptt.</b>	23500	27000	29200	32000	35000	37000

\* Rs.98032 cr. for current year requirement and Rs. 49698 cr. on account of arrears for previous years.

- Projections for 2014-15 and 2015-16 is based on actual projections made for RE 2014-15 and BE 2015-16. The projections for remaining years for DCP States is based on assumption that approx. 10% increase will be seen in subsidy requirement in next few years. In case of FCI, requirement for 2016-17 onwards is based on projections made in March, 2014 on the request of Ministry of Finance.

(Source: Department of Food & Public Distribution, Govt. of India)

## Annexure 10

## Stock of Food grains in Central Pool

(In million tonnes as on 1st January)

Year	Rice	Wheat	Coarse Cereals	Total
1991	9.63	9.38	0.12	19.13
1992	9.29	5.43	0.01	14.73
1993	9.48	3.47	0.18	13.13
1994	11.95	11.10	0.47	23.52
1995	17.42	12.88	-	30.30

1996	15.41	13.15	-	28.56
1997	12.94	7.08	-	20.02
1998	11.49	6.76	-	18.25
1999	11.68	12.70	-	24.38
2000	14.18	17.17	-	31.35
2001	20.70	25.04	0.03	45.77
2002	25.62	32.41	0.08	58.11
2003	19.37	28.83	-	48.20
2004	11.73	12.69	0.60	25.02
2005	12.76	8.93	0.00	21.70
2006	12.64	6.19	0.43	19.26
2007	11.98	5.43	0.09	15.50
2008	11.47	7.71	0.00	19.18
2009	17.58	18.21	0.40	36.19
2010	24.35	23.09	0.25	47.69
2011	25.58	21.54	0.10	47.22
2012	29.72	25.67	0.10	55.49
2013	32.22	34.38	0.09	66.69
2014	30.32*	28.05	0.38	58.75*

\* Including 15.62 Million Tonnes of Rice yet to be milled from paddy.

(Source: Department of Food & Public Distribution, Govt. of India)

## Annexure 11

### Extract of Recommendations of CACP etc.

The Report of the CACP for Kharif Marketing Season (KMS) 2013-14 said, “The Centre also needs to review its open ended procurement policy and take a policy decision to not accept more than say, 75 percent of last year’s procurement from states that impose taxes and levies beyond 5% of MSP, or give special bonus on top of MSP. This is a necessary step to bring about rationality in pricing, contain the food subsidy bill and ‘getting the markets right’. Else, the Commission fears that a major crisis in food management will unfold, leading to large economic losses that the country can ill afford.”

The Parliamentary Committee on Estimates (2012-13) of 15th Lok Sabha in its 18th Report presented to Lok Sabha on 19.12.2012 has said, “Taking into account that the open ended procurement combined with higher MSPs for wheat and rice has created serious problems for overall cultivation and is deterrent to crop diversification, the Committee recommend that the Government should take steps to educate the farmers about the need to migrate to other crops such as oilseeds and pulses which gives the country higher export values as well as coarse grains, which have a better nutritional value and are sturdier for long term storage too. The Committee also recommend that the Ministry should explore the possibility of putting appropriate checks on the procurement system where FCI may procure upto a certain limit over the buffer norms. The Committee are of the view that the procurement operations could be based on first-come first-served basis and unique ID can be used for fixing a quota where FCI would purchase only upto a certain level from every farmer.”

## Annexure 12

## Summary of Findings of Various TPDS Evaluation Studies

The Programme Evaluation Organization (PEO) of Planning Commission in 2005 concluded that the implementation of TPDS was plagued with targeting errors, prevalence of ghost cards and unidentified households and leakages and diversions of subsidized grains are so large that only about 42% of subsidized grains reached the targeted groups. The details are given separately. PEO had suggested that the food insecurity should not be identified with Planning Commission's poverty line ratio and food insecure households should be clearly identified and covered under TPDS to get rid of the problem.

Another evaluation of TPDS was done by ORG Marg in 2005, which suggested that the overall diversion of rice and wheat under TPDS was 30% and 53% respectively. The diversion was higher in the States of North-East Region and was comparatively lower in Southern States. They had recommended that allocation to APL was not justified. They had further recommended to target only the poor families in deficient States and increase allocation under TPDS and AAY for them, encourage door delivery of foodgrains to ration shops at Government cost, revive old quota system based on number of family members and to increase the margin of fair price shop dealers and provide them transportation cost to discourage misuse of food grains.

The concurrent evaluation of TPDS done by the National Council of Applied Economic Research in two phases during 2006-2009 revealed that delivery mechanism of PDS was quite effective in 9 of the 12 selected States and delivery to BPL households was 80%. The quantity provided under TPDS was found to be meeting the requirement of half to 2/3 share of the total food requirement of the poor families in most States. The quality of food grains distributed was also found to be satisfactory by the majority of the households in most States. Though, the delivery of grains was found to be satisfactory in majority of the States, flaws were noticed in identification of the target groups in most States. The problem of bogus cards was also rampant and huge quantum of food grains was found to have been diverted in the various States. The Institute estimated the number of excess cards to be nearly 2 crore in the country and similarly poor families, which were left out in identification in various States were also estimated to be nearly 1.2 crore. Thus, inclusion of bogus or non-poor beneficiaries and non-inclusion of genuine poor families, both were found to be serious issues in implementation of TPDS and the inclusion error was estimated to be nearly 25% in the country as a whole. The study also hinted at siphoning of food grains on the basis of bogus distribution records and their diversion to black market. The diversion was estimated to be between 15% to 41% in various States.

Another concurrent evaluation study of TPDS was conducted by the Department of Food and Public Distribution through the Indian Institute of Public Administration (IIPA) in 6 Eastern & North Eastern States and their report of 2011 revealed that the number of beneficiaries were much higher than the number of

households in Arunachal Pradesh, slightly higher in Odisha and considerably lower in West Bengal. The percentage of wrongful inclusion of households among BPL card holders ranged between 9% to 74% in various States and wrongful exclusion ranged between 10% to 31%. The quality of foodgrains supplied was found to be satisfactory in various States other than West Bengal, Arunachal Pradesh and Odisha. The denial of ration by the fair price shops was found to be nearly 75% in West Bengal, above 50% in Arunachal Pradesh, nearly 40% in Odisha and below 10% in the case of Nagaland, Tripura and Manipur. The study recommended opening of fair price shops under the aegis of self-help groups, village councils or cooperatives and suggested that door step delivery to the fair price shops may be implemented to further lower the cost of shops and make them viable. The study concluded that the leakage of wheat was rampant in most of the rice eating States varying from 33% to 100% but leakage of rice was low.

#### Leakage and Diversion of subsidized Food Grains in TPDS as per PEO Study

(In terms of percentage of offtake for BPL Category)

State	APL Households' share in subsidized foodgrains from TPDS.	Total foodgrains leakage (Col. 4+Col.5)	Food grains Leakages though Ghost Cards.	Food grains leakage at FPS	Share of the poor households in Distribution
1	2	3	4	5	6
<b>Andhra Pradesh</b>	37.00	20.60	Neg.	20.60	42.40
<b>Assam</b>	12.00	41.68	33.35	8.33	46.32
<b>Bihar</b>	9.60	81.54	26.13	55.41	8.86
<b>Gujarat</b>	5.02	42.06	28.29	13.77	52.92
<b>Haryana</b>	11.00	55.65	Neg.	55.65	33.35
<b>Himachal Pradesh</b>	14.48	31.44	31.03	0.41	54.07
<b>Karnataka</b>	27.50	43.40	25.67	17.73	29.10
<b>Kerala</b>	17.30	21.71	3.91	17.80	60.99
<b>Madhya Pradesh</b>	3.64	62.42	54.48	7.94	33.93
<b>Maharashtra</b>	8.03	26.53	10.78	15.75	65.44
<b>Orissa</b>	12.98	23.39	13.49	9.90	63.64
<b>Punjab</b>	13.00	76.50	Neg.	76.50	10.50
<b>Rajasthan</b>	3.00	31.95	Neg.	31.95	65.05
<b>Tamil Nadu</b>	49.91	15.66	9.26	6.40	34.44
<b>Uttar Pradesh</b>	6.22	61.27	22.30	38.97	32.52
<b>West Bengal</b>	7.75	19.15	13.85	5.30	73.10
<b>All India</b>	<b>21.45</b>	<b>36.38</b>	<b>16.67</b>	<b>19.71</b>	<b>42.17</b>

Source: Department of Food & Public Distribution, Govt. of India

## Annexure 13

## Extract of Section 12 of NFSA, 2013

- “12 (1) The Central and State Governments shall endeavour to progressively undertake necessary reforms in the Targeted Public Distribution system in consonance with the role envisaged for them in this Act.*
- (2) The reforms shall, inter alia, include-*
- (a) Doorstep delivery of foodgrains to the Targeted Public Distribution System outlets;*
  - (b) Application of information and communication technology tools including end-to-end computerization in order to ensure transparent recording of transactions at all levels, and to prevent diversion;*
  - (c) leveraging “aadhaar” for unique identification, with biometric information of entitled beneficiaries for proper targeting of benefits under this Act;*
  - (d) Full transparency of records;*
  - (e) preference to public institutions or public bodies such as Panchayats, self-help groups, cooperatives, in licensing of fair price shops and management of fair price shops by women or their collectives;*
  - (f) Diversification of commodities distributed under the Public Distribution system over a period of time;*
  - (g) Support to local public distribution models and grains banks;*
  - (h) Introducing schemes, such as, cash transfer, food coupons, or other schemes, to the targeted beneficiaries in order to ensure their foodgrains entitlements specified in Chapter II, in such area and manner as may be prescribed by the Central Government.”*

## Sanitation – Open Defecation Free (ODF) by Oct 2, 2019

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### Abstract

*India accounts for 60% of world's Open Defecation (OD) practice. It circumvents the sanitation barrier and afflicts the general population with avoidable diseases, with resultant economic losses, besides creating undesirable health indicators like malnutrition and stunting among children. Several initiatives were undertaken by the government but the problem persists. To achieve the Government's re-affirmed goal of 'Open Defecation Free (ODF)' India, by 2019, under Swachh Bharat Mission, a comprehensive strategy, incorporating the learning of last two decades' efforts (both positive and negative) is required to make this happen and is outlined here under.*

### Introduction

In India, 53.1 % of households (18.6% urban - 69.3% rural) do not have toilets . Moreover, poverty and open defecation practices appear not to be as closely related as much as socio-cultural norms . Bangladesh (4%), Vietnam (4%), Myanmar (6%), Kenya (14%) are cases in point.

ODF status is a crucial parameter in measuring human development and quality of life indices. It has direct links with issues relating to the dignity, safety and health of women, as holding of urination and restrictions due to menstrual cycles adversely affect them. International Agencies (UN General Assembly and SACOSAN) have declared sanitation as a basic human right . In urban and densely populated rural areas, the problem is further magnified with concomitant inadequate sewage treatment facilities and sewage also discharging into open gutters and streams together with waste water.

### Open Defecation and its impact on the General population

Research indicates that OD has a direct impact on health. For example, UNICEF states that one gram of faeces can contain up to 10,000,000 viruses, 1,000,000 bacteria besides other pathogens. Diseases directly attributable to transmission through faecal-oral route (acute gastroenteritis, Hepatitis A/E, Cholera, Typhoid, Ascariasis etc.) cause death and morbidity.

Estimated worldwide economic loss is pegged at about \$54 Billion (treatment costs, early deaths, lost productivity, loss in tourist revenue etc) and in India its loss is 6.4 of GDP. Lack of access to safe sanitation primarily causes severe malnutrition among Indian children, leading to stunted growth and affecting entire life cycle till death.

### Factors influencing Open Defecation

Current experience of CRSP & TSC on persistence of OD practice points to primacy of socio-cultural reasons over domestic infrastructure (availability of latrines). Apart from lack of awareness on disease outcomes, its continuation is due to a combination of 'people's perceptions' – (i) keeping excreta away home for ritual purity and health (ii) physical exercise helping to clear intestines (iii) excreta as fertiliser inputs (iv) toilet cleaning's association with lower castes and (vi) lack of drainage and water facilities etc. Hence, the existing oddity of homes with toilets also having members defecating in the open. Thus, behavioural change is a larger issue than infrastructure.

### India's Sanitation Programmes till date -lessons for today

The Central Rural Sanitation Programme (1986), focussing on construction of household toilets and promotion of single technology models with subsidies, did not make much headway as it adopted a top-down approach without emphasis on behaviour change component. The Total Sanitation Campaign (TSC-1999), adopted the Community-led total sanitation approach and included the whole gamut of sanitation viz. personal hygiene, home sanitation, safe water, excreta disposal, solid & liquid waste management, IEC etc. and took NGOs, schools and local bodies as active partners/stakeholders. The Nirmal Gram Puraskar was introduced in 2003 as an incentive for local bodies reaching a stage of declaring themselves open defecation free.

The TSC was assessed in 22 States by a World Bank initiative and revealed processes that led to successes in implementation as seen below:

- 1) Excellent results accrued where disseminated guidelines were understood, and where well-defined strategy, budgetary allocation, monitoring and implementation, a strong political and administrative will, community involvement and appropriate technology was involved.
- 2) Presence of a dedicated unit at all levels (district, block, sub-block) as it facilitated coordination with other department and institutions.
- 3) Implementation not depending on upfront subsidy and phased implementation, coupled with demand creation, dependent on community mobilization and motivators action, ensured progress.
- 4) Promotion of multiple technology options and offering choices to community's preferences, with availability of qualified trained masons for construction has driven progress.
- 5) The smooth release of additional instalments with incentives available for various stakeholders helped in better performance.
- 6) Setting up of effective monitoring systems at the village, block and district levels, use such systems to track both BPL and APL coverage and toilet usage helped in better performance.

The initial conclusion is, instead of reinventing the wheel, the lessons learnt in CRSP and TSC need to be understood and implemented. The focus should be on the 'processes' that enabled success in the TSC Campaign primarily keeping the "Community" as the target and "Behaviour Change" as the main approach.

### Policy Recommendations

#### 1. *Behaviour Change in the Community*

To achieve ODF status by 2019, at least 35% of funds need to be specifically earmarked for 'Behaviour Change' component in the initial phase and the focus should be on making people 'want to avoid open defecation' and 'to have their own toilet and use it too'. The Campaign should be targeted at all stakeholders and effectiveness measured in changed mind-sets and successful experience of the Pulse Polio programme is valuable in this context.

#### 2. *Broad based consultation*

To avoid a top-driven approach, emanating from GOI or the State headquarters, consultative sessions need to be organized in each State over a period of four months on a decentralized basis, with participation from both Government and non-government bodies, from the village, block, district, community level etc. on how the goal of 'Open Defecation Free' should be reached. The focal issue should be on 'How to make individual households want to have and use a latrine'.

#### 3. *End-to-end processes*

Following a four-month brainstorming session, the final implementation plans (preferably with block as a unit) could be drawn up inclusive of the processes that have already spelled success. These TSC processes should also accommodate the suggestions given, if they are to factor in unique state-specific conditions.

#### 4. *Demand driven approach*

The top down/target driven approach for latrine construction should be preceded by a demand-driven approach for household toilets, stemming from behavioural change engineered by local community and schools etc.

#### 5. *Logistics & Supply chain*

Lessons learnt from establishment of local sanitary marts, adequate supply of hardware in the locality, training of masons, use of SHGs should be incorporated and customised for local context/requirement. As the 'Behaviour Change' programme brings results and pushes up demand, it would be necessary to ensure adequate supply of stocks throughout the country.

#### 6. *Schools as change-agents*

School children should be enlisted as one of the change-agents for effecting behavioural change in the local community and school assemblies can be

learning sessions. All schools should be provided with excellent toilets so that using toilets becomes a habit, which might influence their family members at home. Once school students are taken as stakeholders, they will ensure toilets at home are built and used.

7. *Youth as outreach workers*

University and College students need to be actively involved together with their NSS units adopting service areas around their institutions to help in bringing behavioural change. NSS units with a definite agenda have huge potential in bringing in behavioural change.

8. *Best practices inspire change*

Best practices in achieving ODF status should be highlighted in a portal. Best practices within a State/UT should be used as models to motivate others in proximity. Heroes for the cause should also be given publicity through the portal.

9. *Community toilets can inspire and promote usage of toilets*

Public toilets in common locations such as markets, bus stands, train stations, large government offices, parks etc, should be well-maintained and out-sourced for maintenance. Model maintenance agreement formats are needed. Availability of Public toilets should motivate the general public to use it and at the same time to have one at home.

10. *Sewage Treatment plants*

In urban areas and densely populated rural areas that are lacking in sewage treatment systems, a major drive is necessary to build appropriately sized sewage treatment plants as untreated sewage would be the same as open defecation on a larger scale. Fast-paced urbanisation and poor capacity of existing Sewage Treatment plants has led to massive release of open sewage. Unless we have to plan adequately - to build in a time-bound manner, we are not dealing with the other larger issue of Open defecation that releases large quantities of untreated sewage into the open.

11. *State-specific plans*

As statistics point to highest prevalence of OD in five States (50% of total ODF), a separate time bound plan needs to be prepared for these States.

12. *Incentivise performing states*

An incentive component may be built on allocation of resources from the Finance Commission Awards, sharing of taxes and other Centrally Sponsored Schemes.

13. *Monitoring systems*

The dedicated online monitoring systems that were a part of the TSC should be further tweaked to provide for ranking based on performances across districts

of all States/UTs. The NGP should be reviewed to ensure continuity of ODF status by those who were awarded earlier. Elaborate monitoring systems are necessary to keep the drive going at full pace.

\*The authors are senior officers of the Indian Administrative Service who underwent the Phase V course of the Mid-Career Training Programme at the Academy in October- November 2014.

## Notes

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[http://www.sswm.info/sites/default/files/reference\\_attachments/WSP%202011%20A%20Decade%20of%20the%20Total%20Sanitation%20Campaign.pdf](http://www.sswm.info/sites/default/files/reference_attachments/WSP%202011%20A%20Decade%20of%20the%20Total%20Sanitation%20Campaign.pdf)

<sup>10</sup>Nilika Mehrotra & S.M. Patnaik, *Culture versus Coercion: Other side of Nirmal Gram Yojana*, *Economic & Political Weekly*, Vol 43, No43 (Oct. 25 -31, 2008), pp.25-27

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# Urgent Need to Put Electricity Distribution Utilities on a Fiscally Sustainable Path

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## Abstract

*Electricity Distribution segment in India is still making huge losses, the main reasons include: electricity tariffs which are not cost reflective; high Aggregate Technical and Commercial (AT&C) losses; insufficient investments in distribution infrastructure and regulatory bottlenecks. The distribution utilities are required to be put on a fiscally sustainable path on an urgent basis for viability of power sector in India. Major policy initiatives are required for reforming distribution segment which include achieving political consensus to take electricity issues above politics; setting of cost reflective tariffs; separation of agriculture and rural domestic feeders; load shedding based on AT&C loss at feeder level; promoting investments in advanced technologies and renewable energy sources; making available central sector schemes to private distribution utilities; adoption of PPP models in the distribution segment; capacity building; demand side management and separation of carriage and content.*

## Introduction and Scope of the problem

Distribution is the most important link in the power sector value chain. It is the interface between the utilities and the consumers and is the cash register for the sector. Electricity Distribution Companies & Utilities (discoms) in India are making losses even after unbundling and establishment of regulatory commissions. As per PFC Report of 2014 on 'Performance of State Power Utilities', the losses of distribution companies (subsidy received basis) in India have increased steadily to Rs. 69,972 crore in 2012-13 from Rs. 9,225 crore in the year 2005-06 (Table-I). As on 31.3.2013, cumulative losses on accrual basis of the state discoms were Rs 2, 50, 412 crore and total borrowings had touched Rs 3, 04,257 crore. Large recurring losses have resulted in reduced capital investments in distribution segment, and are a huge financial burden on the Governments. The earlier reforms focused on generation and transmission rather than the distribution due to complexities involved in distribution reforms. The viability of Indian power sector is at stake unless the discoms are put on a fiscally sustainable path on an urgent basis.

Table I : Profit/ Loss of Discoms

(Figures in Rs crore)

	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Profit/(Loss) after tax	(7,930)	(14,332)	(14,597)	(21,646)	(26,618)	(49,577)	(72,629)	(69,108)
Profit/(Loss) on subsidy received basis	(9,225)	(15,086)	(17,465)	(34,811)	(41,558)	(51,948)	(76,867)	(69,972)

Source: PFC Report 2014.

### Tariff Related Issues

- Tariffs not being cost reflective and accumulation of regulatory assets

As per PFC Report [2014], Average Cost of Supply (ACS) has increased from Rs 2.57 per unit in 2005-06 to Rs 5.01 per unit in 2012-13 (Table -II). Though the Average Revenue Realised (ARR) on subsidy received basis also increased from Rs 2.40 per unit in 2005-06 to Rs 4.19 per unit in 2012-13, the gap between ACS and ARR continued to increase from Rs 0.17 per unit in 2005-06 to Rs 0.83 per unit in 2012-13. This results in cash loss for every unit sold. Unmet revenue gaps over the years have resulted in accumulation of huge regulatory assets, which are estimated at nearly Rs 70,000 crores at national level. Therefore, regulators need to fix cost reflective tariffs and liquidate accumulated regulatory assets in a time bound manner. ACS needs to be kept in check by initiatives like developing pit head generating plants, encouraging private generating players, long term Power Purchase Agreements (PPAs), etc.

Table II : ACS, ARR and ACS-ARR gap of Discoms

(Figures in Rs per unit)

	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
ACS	2.57	2.75	2.94	3.41	3.53	3.98	4.55	5.01
ARR (Subsidy Recd basis)	2.40	2.49	2.66	2.87	2.95	3.30	3.62	4.19
Gap	0.17	0.26	0.28	0.54	0.58	0.68	0.94	0.83

Source: PFC Report 2014

- Poor realization from agricultural consumers

PFC Report [2014] data shows that while share of energy sold to the agricultural consumers was approximately 23% of the total energy sold in the year 2012-13, the share of revenue received from the agricultural consumers was only approximately 8% of the total revenues. Some States have successfully segregated feeders into agricultural and non-agricultural consumers in rural areas, thereby optimizing the quantum of power given for agriculture (subsidized power) and providing a quality supply to rural non-agricultural customers.

- State interference in operation of distribution utilities

The Electricity Act, 2003 (EA) had sought to limit political and Government interference in the functioning of the regulators and operation of the utilities. However, the regulators and the utilities have struggled to achieve true autonomy. There is constant political pressure to supply electricity at a much below cost. Political consensus needs to be achieved fast, to take the issues of electricity above politics.

#### Technology Related Issues

- High AT&C Losses

As per the PFC Report [2014], AT&C losses in developed countries are in single digit whereas, average AT&C losses in India were 25.38% in 2012-13 (Table-III). Reducing AT&C losses is key to make distribution segment financially sustainable and keeping tariff hikes in check. High AT&C losses are mainly due to theft, meter tampering and collection & billing inefficiencies; and can be controlled through technological interventions. Making detection and control of electricity theft as one of the Key Result Area of local police can yield good results. Some discoms have been successful in reducing cash losses by transparently publicizing AT&C losses at feeder level and resorting to proportionately higher load shedding where AT&C losses are high.

Table III : Region wise average AT&C losses

Region	2011-12 (in %)	2012-13 (in %)
Eastern	41.80	42.06
North Eastern	35.15	37.60
Northern	30.34	28.84
Southern	18.89	17.24
Western	24.81	23.36
National	26.63	25.38

Source: PFC Report 2014.

- Investment in technology

Technology related investments in High Voltage Distribution System; aerial bunch cables; box encased transfer resistant electronic meters; Supervisory Control and Data Acquisition Systems; Integrated Geographic Information Systems; Outage Management Systems; Distribution Automation; Integrated Call Centre; Demand Response; Enterprise Resource Planning; billing computerization etc. have proved very effective. Tata Power Distribution Ltd in Delhi has been able to bring down AT & C losses from 53% to nearly 11% over a period of 12 years through intelligent investments in technology.

- Capacity Building

There is a need for immediate capacity and concurrent capability building at all levels in the power sector, including the regulators. Their skills need to be upgraded to imbibe the commercial nature of the sector and use of technology for bringing about effectiveness and efficiency in the sector.

- Demand Side Management

Demand Side Management, particularly through introduction of Time of day (ToD) tariff, energy efficiency practices, etc. can help flatten the load curve, optimize power purchase cost and capital expenditure.

### Government Related Issues

- Public Private Partnership

Many approaches exist to attract private participation in distribution viz. joint venture discoms, franchising and limited management contracts. Distribution in Delhi was privatized in 2002. Since then, there has been remarkable improvement in the quality and reliability of power supply. During the last decade, AT&C losses have been brought down dramatically from 55% to around 15% and the distribution system has been modernized with capital investment of more than Rs 8000 crore. Maharashtra has been successful in implementing the input based Distribution Franchisee (DF) model in Bhiwandi. This concept has also been attempted in Agra, Kanpur, Nagpur, Jalgaon, Aurangabad, etc. Heavily populated compact urban areas with high initial AT&C losses are ideally suited for DF model. Bundling of various services (electricity, water, telecom, internet, post, courier, etc.) is also an option at grass root level where volume of business will justify investments.

- Applicability of Central Sector Schemes for Private discoms

Central schemes such as 'Restructured Accelerated Power Development & Reforms Programme' and 'Scheme for Financial Restructuring' have not been made applicable for the private discoms. The successful models elsewhere in the world indicate that there should be a non-discriminatory regime between private and public utilities in the power sector.

- Promoting Renewable Energy

Considering the dramatic drop in solar and wind energy tariffs, there is a case for enhancing energy supply from renewable sources. This will also result in having distributed generation & micro-grids. Regulators should enforce the discoms to meet their Renewable Purchase Obligation (RPO)

- Segregation of Carriage and Content

Distribution is still a monopoly business in India as the licensee owns the distribution network and has captive consumers. The distribution business consists of two very distinct functions of Carriage (Wires) and

Content. At present, the EA does not envisage separate licenses for these two functions. Segregation of the distribution business into carriage and content will facilitate competition in distribution by providing greater choice to the consumers.

## Recommendations

- Immediate Basis
  - a. Cost reflective Tariffs should be fixed by the regulators, in letter and spirit, in line with National Tariff Policy
  - b. Reduce AT&C losses by:
    - i. Separation of agriculture and domestic feeders in rural areas
    - ii. Load shedding based on AT&C loss at feeder level
    - iii. Investing in the latest technologies including 100% metering and smart grids
    - iv. Making detection and control of electricity theft as one of the Key Result Area of the local police
  - c. States to go for PPP models in power distribution like privatisation of discoms, Distribution Franchisee, etc.
  - d. Average Cost of Supply to be kept in check by initiatives like developing pit head generating plants, encouraging private generating players, long term PPAs, etc.
  - e. Focus on demand side management through differential tariffs based on intra-day demand. and energy efficiency practices
  - f. Central sector schemes be extended to private discoms, and should be flexible enough to take care of local conditions
  - g. Time bound capacity building of the power sector (including regulators)
- Long Term
  - a. Achieve political consensus to treat electricity as a 'commercial good' and keep electricity above politics.
  - b. Amendment of Electricity Act, 2003, to have legal framework for separating carriage and content, complete autonomy of regulators, etc.
  - c. Encourage renewable energy sources, distributed generation and micro-grids.

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