DIRECT BENEFIT TRANSFER IN SEED SECTOR: IMPACT & CHALLENGES

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Abstract:

In the era of continuous technological evolution by Manufacturing, Service and various other sectors, the agriculture sector has relatively lesser scope to make a fast-track progress in association with available technology due to various reasons. Under such circumstances, DBT (Direct Benefit Transfer) was implemented in the Agriculture sector along with many sectors. This scheme was introduced in the year 2013 and it's witnessing mixed reviews by various stakeholders including farmers.

This paper throws light on the technological innovation in the certified seed industry with the introduction of DBT, The status of the industry prior to DBT, challenges, adaptability/acceptability and future of DBT in certified seeds.

The paper also explains about the technological infrastructure developed and required for implementation of a nation-wide scheme; aiming to transfer benefits to large number farmers procuring the certified seeds being provided by Seed Nodal Agencies.

The experience of seed producing agencies is also covered in the paper which explains market behaviour pre-DBT and post-DBT. Overall, this paper attempts to describe the role of various stakeholders in the entire value chain i.e. from the transfer of subsidy from central government exchequer to the farmer's account.

Keywords: Direct Benefit Transfer, Agriculture Sector, Market Behaviour, Technological Innovation, etc.

Introduction

On first January 2013, GOI launched the Direct Benefit Transfer Scheme with the aim of reforming the government delivery system by modifying the existing procedures in welfare schemes for accurate targeting of beneficiaries, bringing in transparency in flow of information and funds. This was done to realize the dream of MAXIMUM **GOVERNANCE** MINIMUM GOVERNMENT by using modern technology and IT tools. As on date, cumulative Direct Benefits total transferred have been Rs 534189 crores.1 A total of 464 schemes from 57 different ministries are under DBT. These include various subsidies that impact the citizens such as LPG subsidy, Pensions, LIC, PDS, scholarships, various grant in aids, stipends, etc.

Earlier, the subsidies in food grains, kerosene which were sold through the public distribution system, the end consumers paid the below-market rates. The gap between the market price and the lower consumer price for these products was covered by the subsidy. Now the end beneficiary will have to pay the full price and the intended subsidy will be transferred directly in his/her account. The Government has successfully implemented DBT in LPG and saved substantially for the exchequer.

The three major enablers of DBT are JAM i.e. Jan Dhan, Aadhaar and Mobile. With these as prerequisites for successful implementation of Aadhaar as on date more than 22 crore Jan Dhan Account, more than 100 crore Aadhaar and about 100 crore Mobile connections are making it possible to achieve this ambitious objective of implementation of transfer of benefits directly into the accounts of beneficiary across all the states and union territories. Upon successful implementation, DBT is envisaged to bring in efficiency, effectiveness, transparency, and accountability in the Government system and infuse confidence and faith of its citizens in the governance.

A robust technological infrastructure is the foundation for implementation of such a huge mission. A typical process flow of DBT explains that the first step is the identification of the beneficiary, followed by verification of eligibility for the intended benefit. These are then certified by the relevant department in the district /state and a database is sent to the central ministry of the same department for release of funds through CPMS (Central Plan Scheme Monitoring System). They in turn release the fund to the beneficiary's account.



Figure 1: Process Flow for DBT (Source: Ministry Publications)

Various Stakeholders involved in this process are:

- 1. Beneficiary
- 2. District/State Government officials
- 3. Sponsor Banks
- 4. CPMS



Figure 2: Stakeholders Involved In Process (Source: Ministry Publications)

DBT in Certified Seeds

Agriculture being one of the core independence sectors after saw dramatic changes decades after decades. From food crisis due to famines to abundance in food achieved due to the Green Revolution in various phases made Indian agriculture sector a classic case study for the entire world. Small size land holdings of India coupled with unpredictable weather conditions and lesser availability of credit always posed a challenge to ruling governments to improve lives of the agrarians/farmers. Therefore, the Government of India initiated subsidies as a measure to eradicate poverty and to promote socioeconomic development in society.

Subsidies make lives of farmers easy as it provides easy credit to them during peak periods in Agriculture i.e. Kharif/Rabi/Zaid. The process of disbursement of subsidies has evolved over the years and every evolved system has attached costs and involves a great expenditure on exchequer of Governments (transactional costs/ operational costs). Thus, to make the process of subsidy delivery more streamlined, Direct Benefit Transfer (DBT) was started on 1st January 2013. The main objectives of which were as follows:

- To simplify and fasten transaction process i.e. flow of information/ funds and to ensure accurate targeting of the beneficiaries
- To avoid De-duplication of beneficiaries and misuse of funds by sending it to wrong beneficiaries
- Reduction of fraud

To Ensure

- A simple and user-friendly Government to People (G2P) interface and Transparent, ancient and reliable manner.
- Directly delivering entitlements to eligible individuals and households in a fair.

How is it Done?

- Registration of farmers with their details & bank accounts
- Validation of farmers' bank
 accounts through PFMS gateway
- Linking the developed application software with scheme funds

Thereby

- Reducing delay in subsidy administration
- Ensuring correct targeting of the beneficiary
- Curbing pilferage, if any
- Automated bills & UC generation

Subsidy on Certified Seeds

Currently, the seed subsidy is provided mostly for distribution, marketing and transportation and not so much for production. These subsidies are given as a part of various technology missions and other centralized schemes. Despite various efforts to ensure availability of good quality seeds of high yielding varieties and hybrids, yet nearly 70-75% of the total seed availability of good quality seeds is met through farm saved seed. Many schemes such Rashtriya Krishi Vikas Yojana, Macro Management Agriculture, Integrated Scheme for oilseeds, pulses, oil palm and maize (ISOPOM), National Mission on Oilseed and Oil Palm Technology missions for cotton, National Food Security Mission etc. provide for subsidy on seeds. Some of them also provide incentives for investment in Seed manufacturing infrastructure and upgradations.



Figure 3: Stages in Seed Production Cycle

Presently, GoI is providing subsidy on the production of certified seeds to farmers and procurement of Breeder Seeds by seed producing agencies. In India, sowing of quality seeds is the concern as there is always an alternate availability of seeds such as own farm saved seeds. Thus, subsidies play a key role in promoting farmers to sow quality certified seeds instead of easily available other seeds. The nature of subsidy is evolved over the period and since the introduction of DBT, it is witnessing a major shift in the entire industry.

Pre-DBT Scenario

Initially, the seeds were sold to farmers at the rate which was derived after deducting the subsidy from the all in cost price. The sale rate was communicated by GoI and other state governments to authorized seed dealers who in turn used to get the subsidy after producing the required documents at the end of season. The entire process can be summarized in the flowchart as under:



Figure 4: Pre-DBT Process

Issues and Concerns:

This system posed some challenges enlisted below:

- Establishing true beneficiaries who are bonafide in Nature
- Lengthy process which used to result in delay in realization of subsidy
- Complicated process which made process of claiming subsidy more difficult
- Lack of proper monitoring in entire transaction process
- Pilferage/ Leakage of subsidy in 4. the wrong hands
- Differences in subsidy realization for the same crop by various farmers in the same season

DBT in Seeds

The DBT System introduced in the seed sector was envisaged to cull out the explained drawbacks in the earlier system. Prime motives behind the introduction of DBT in seed business areas under:

- To electronically transfer input subsidy (GOI/State) to the bona fide farmer's account
- To eliminate bogus dealer payments through wrongful inclusion and wrongful exclusion of beneficiaries
- To make available the real-time price as well as stock information to seed dealers
- To provide quick and convenient methods for grievance redressal
- To prevent any misuse of subsidy by putting in place a robust MIS

Steps Followed in Subsidy disbursement: Post Introduction of DBT

- 1. Seed transactions made through mobile/web-based applications by the registered dealers/ societies or they are transacted in offline mode through a specially designed mobile App- Seed DBT App which is later synced with the server when internet access was available.
 - Farmers can purchase certified seeds from any authorized dealers in their respective district.

2.

3.

5.

- The dealer sells the seeds to farmers on the first-come-firstserve basis at an all-in-cost price (Full price) and maintains a sales register with the farmer's signature and in the sales register; details of farmers and seeds purchased are recorded.
- The seed transaction details are entered into the mobile app or web-based application which uploads the data to the central server and calculates the admissible subsidy to farmer.
- The admissible calculated subsidy is then directly remitted to the farmers' account through PFMS (Public Financial Management System) under the Ministry of Finance within 7 days. The dealers (having valid seed licenses) have the option to use the mobile or web application to record the seed transaction.

Implementation Modalities

- Training and awareness campaign
 To stakeholders like field officers
 like DDAs, DAOs, AAOs,
 farmers, seed producers, dealers,
 PACS regarding registration and
 transaction modules for DBT of
 seed input subsidy.
- Registration of farmers Through Lokvani centres (Kisan Service Centres), Cyber Cafés, DDA/ DAO/Block Office, PACS/ LAMPS of Cooperation Dept/

Dept. of Agril/Mobile App (FR Seed DBT).

- Collection Information of required for farmer registration i.e. by Aadhar/Voter Card/ Card/Passport, Ration land record (Khatoni), Bank passbook details, Farmer name, father name, village, block, district, mobile number, alternate person name, relation to alternate person be provided in the Farmer Registration detail.
- Validation of account details of the farmer through Public Financial Management System (PFMS) mode. Farmer identification number is issued.
- Seed transaction through Mobile App (DBT App) or Web Application by block seed outlets/registered dealers, PACS, LAMPS, etc.
- Subsidy Payment through PFMS Mode
- Generation of Management Information System (MIS) reports

An Example of Implementation of DBT in Seeds: Odisha

DBT was introduced in the state of Odisha from Kharif-2016. The progress of the DBT implementation is as under:



Figure 5: Implementation of DBT in Seeds



Figure 6: Seed DBT: Integration of Applications-System Flow (Source: Direct Transfer of Subsidy of different agricultural Inputs to farmers: DBT INITIATIVES IN ODISHA)

Result of the Implementation till 2017

- Registration of about 18.00 lakh farmers (HOF) (59.30 lakh family members) through web and mobile interface till date.
- Bank account details, family members, Photo ID, Aadhar number (optional) are being captured during the registration process.
- Sharecroppers are not deprived during the registration process.
- 2719 Service Cooperative Societies (PACS/LAMPS) and 628 AAOs were involved in registering farmers.
- Farmers registered (paddy procurement) under the FS & CW Department have also been brought to the fold of registered farmers.
- Registration is dynamic & is still continuing at http:// odishaseedsportal.nic.in & http://agrisnetodisha.ori.nic.in by the AAOs & PACS/LAMPS.

However, the impact was not all rosy. For 2017 Rabi season farmers purchased only 2000 quintals of certified groundnut seeds from OSSC against target of 30,000 quintals. The Corporation was selling more than one lakh quintals of groundnut seeds before DBT. OSSC registered low offtake of moong and biri seeds. Big blow for corporation which sustained a loss of about Rs 30 Cr. State Govt came to the rescue of OSSC by providing a subvention of Rs 7.5 Cr. Table 1: Sale of Seeds through DBTMode

Crop	Lifting	Farmer Sale
Paddy	299593.40	291943.80
Black Gram	486.32	5.24
Groundnut	419.70	120
Scheme Name	No of Distinct Farmer	Total Amount (in Rs.)
Scheme Name	No of Distinct Farmer	Total Amount (in Rs.)
		005000 F
NMOOP	325	625339.5
NMOOP NFSM	325 22788	11821350
NMOOP NFSM RKVY	325 22788 48824	11821350 23014663.2
NMOOP NFSM RKVY STATE PLAN	325 22788 48824 277255	625339.5 11821350 23014663.2 247654412

Source: Direct Transfer of Subsidy of different agricultural Inputs to farmers: DBT INITIATIVES IN ODISHA

An Example of Implementation of DBT in Seeds: UP

- Uttar Pradesh is the first state in the country to introduce DBT in agri-subsidy.
- They launched a dedicated web portal for the purpose : upagripardarshi.gov.in
- Out of 23.3 million farmers, 17 million farmers are registered online.
- DBT started with hybrid seeds in Kharif 2015.
- All kind of subsidies being transferred through DBT portal since Kharif 2017.
- Rs. 456.17 Cr. subsidy transferred through DBT to 2.33 million farmers in the year of 2017-18.

The DBT programme benefited around 1.5 lakh farmers in Kharif 2015. They were given the freedom to buy seeds from any of the designated retail outlets operated by private companies at market prices, with the subsidy being credited separately into their bank accounts. While in the preceding kharif season, the UP government spent more than Rs 85 crore as subsidy on hybrid paddy, maize, jowar and bajra seeds, the outgo fell to less than Rs 25 crore in kharif 2015 post introduction of DBT. In the Rabi season, too, farmers bought wheat, oilseeds and pulses seeds from designated government/semigovernment and cooperative outlets at market-linked rates. The total subsidy

amount, transferred directly into the accounts of approximately nine lakh farmers, came to Rs. 127 crore. This again was lower compared to a bill of Rs. 217 crore during 2014-15 rabi.

The main reason for the subsidy savings was the knocking-out of fictitious beneficiaries. In fact, the DBT system's biggest achievement has been that many farmers received subsidized seeds for the first time, thanks to the transparent manner for identification of beneficiaries. In the earlier system of "at source" subsidy, there wasn't any means to check who was getting the subsidy. And since the seeds were sold at below market prices, it led to paper transactions and diversion of subsidized material.

Under the new system, small and marginal farmers are approaching the designated outlets with a sense of entitlement, after having registered themselves online on the Agriculture Department's DBT portal. Nor is there scope for embezzlement by seed stores in-charge, as the subsidy into the accounts of farmers can be transferred only after the money collected from them has been deposited in the treasury. The readily available database also makes it possible to provide certified seeds — that require replacement only once in three years - to new sets of farmers each season. This allows for faster diffusion of technology, unlike in the earlier system where the same set of big and influential farmers ended up getting new certified seeds every year.

The new system has other important spin-offs as well. The robust farmerlevel data generated can be useful for planning purposes in different agro-climatic zones of UP. Also, the process of data generation and more farmers buying from designated state seed outlets has resulted in renewal of contact between them and the agriculture department, which again is beneficial for extension of technology.

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There are, nevertheless, two major challenges in implementation of subsidy via DBT for all agricultural inputs. The first is the issue of upfront payment — not all farmers can pay market prices for say, fertilizers and wait for the subsidy to be credited to their bank accounts — and the second is the exclusion of sharecroppers by virtue of their not 'owning' land. The latter challenge can be addressed through changes in land leasing laws, which allow formal recognition of non-landowning cultivators.

Impact of DBT on Seed Producing Agencies

While impacts/benefits of DBT is talked about in regard to farmers and government; seed producing agencies have been equally affected by the DBT. The quantum of production, sales and profitability of agencies is largely dependent on prevailing schemes of government, market behaviour and climatic conditions. Since introduction of DBT it has been observed that it is becoming increasingly difficult for liquidation of seed stock which is resulting in carry over stock. The incidence of carry over stock is pushing the seed producing agencies for lower seed production which is resulting ultimately in lesser availability of quality seeds in the market. However, complete acceptance of DBT by the farming community can revitalize the seed sector.

Table 2: Before Implementation ofDBT in Uttar Pradesh (2014-15)

S.N	Agency	Approved Qty for subsidy (qtl)	Achieve- ment (qtl)
1	UPSSC	200000	200000
2	NSC	298000	256000
4	IFFDC	170000	27000
5	UP Agro	145000	38000
6	PCF	520000	456000
7	Govt Ag. Dept	746000	746000
8	TDC	50000	38000

Source: Primary Market Survey

Table 3: Before Implementation	of DBT	in Uttar	Pradesh	(2015-16,	2016-17
& 2017-18)					

	,					
		2015-16		2016-17		2017-18
S.N	Agency	Approved Qty for subsidy (qtl)	Achieve- ment (qtl)	Approved Qty for subsidy (qtl)	Achieve- ment (qtl)	Approved Qty for subsidy (qtl)
1	UPSSC	55000	11980	55000	3397	175000
2	NSC	90000	8000	70000	818	100000
4	IFFDC	40000	6400	40000	885	30000
5	UP Agro	70000	20548	40000	14000	25000
6	PCF	400000	204784	200000	107000	125000
7	Govt Ag. Dept	455000	417000	495265	316000	356000
8	TDC	0	0	35000	0	0
Source Driver Market Commu						

Source: Primary Market Survey

It can be observed from both the above tables that since introduction of DBT, the achievement from the agencies has been on lower side and is reducing year after year. Hence, reach -ability/ acceptance of DBT by all the stake holders is essential for the revival of the seed industry as a whole.

Advantages of DBT in Seeds for Various Stakeholders

For Implementation Agencies

- Manage Beneficiaries in CPSMS
- Use Pre Validated Data of beneficiaries
- Advanced bank account matching through a fuzzy logic that matches bank accounts with the name of the beneficiaries. This logic helps identify beneficiary records that could have mismatches and enable rectification to reduce delays in payments.
- Last level of agency need not have bank account of its own.
- MIS on Bank reconciled payments (Success/failure)

For Ministries

- Unique Farmer ID for beneficiary identification in order to eliminate the pilferage/ leakage of funds OR landing of funds in the wrong hands
- A developed unique batch code for tracking all the inventory
- No Float/Idling of funds hence

effective utilisation of financial resources

- Real time accounting and reconciliation
- Minimal failure due to prevalidation of bank accounts and look-up in NPCI mapper by sponsor bank
- Consolidated MIS-Scheme/ Agency /District/Date Wise
- Utilisation Certificates as per GFR

For Beneficiary

- The beneficiary gets the in-cash benefit directly into his bank account within 7 days allowing for increased engagement with bank accounts.
- Inclusion of sharecroppers (who do not own land and hence, cannot provide land record details) as beneficiaries.
- Online checking of payments credited in his/her account.

Challenges

- Identification of beneficiary: The collection of accurate information about the beneficiary including their identity proofs, land particulars and bank account numbers remains a challenge as many are still deprived of the same.
- Acceptability of farmers: The majority of the farmers are not in a position to make upfront

full payments for certified seeds. Across the country, farmer purchase the agri–inputs on credit. Hence it becomes very difficult for an already indebted farmer to pay a high price for the basic input for farming which is seed.

- Financial Inclusion at Rural level is yet to be completely exploited. It will also require an extensive financial education among the farmers who have their bank accounts but are yet to operate them and avail services and become comfortable with doing the transactions.
- Connectivity: The network connectivity for operations of POS machines for sales of agri inputs, high speed internet connectivity are still an issue. Hence it would require a robust digital and internet infrastructure. Inadequate Grievance Redressal
 - Mechanism: The day to day problems which are faced require a highly efficiency resolution mechanism which is in place but a lot needs to be done to strengthen it.

Conclusion and Way Forward

While the government speaks of various advantages associated with DBT, it comes with some challenges due to which various stakeholders are still against DBT. India having large number of small-size farmers mainly faces the challenge of liquid credit availability. Due to credit/cash crunch for the farming community, all in cost price (total cost) which have to be paid by the farmers upfront during the process of purchase of seeds is becoming a concern for acceptance of DBT. Due to Onetime payment of full cost, even seed agencies are witnessing reduced sales leading to sowing of own farm saved seeds.

From the government point of view, even after so much of information collection, it is becoming difficult to establish a full proof system along with partnered banks. Constant promotional programmes and technology upgradation has to be done in order to escalate the implementation in farming community. Following are the measures which can be adopted for an effective and inclusive implementation of DBT.

- Convergence of all agri-input subsidies: A one-stop solution for all agri inputs is required. As on date, the fertilizer subsidy is working on a different mechanism as seed. Hence convergence and integration of all Agri Input Subsidies viz. Fertilizers, Seeds, Agri Machinery, etc. will help in a consolidated and mass acceptance.
- Conducting more number of demonstration programs and distribution of seed mini kits as a promotional measure would help in generating awareness about DBT.
- More efforts need to be made by various stakeholders by forming PPCs i.e. Public Private Cooperative agencies and NGOs to spread awareness about the benefits of DBT to sharecroppers.
 - Integration with PFMS and Coordination with banks needs to be strengthened for quick resolution mechanism.
 - In order to address the issue of full upfront payment of products, Kisan Subsidy Cards (KSC) can be introduced. Banks are now issuing Kisan Credit Card (KCC) to farmers, providing a credit limit of up to Rs three lakh linked to their landholdings. This credit limit could be split into two parts. While the existing KCC component would enable farmers to withdraw cash towards making payments towards labor or electricity/diesel for irrigation, the KSC sub-limit can be used only to make the upfront payments on subsidized inputs like seed and fertilizer. Such payments should, however,

be allowed only through custommade swipe machines, with the KSC limits getting 'recharged' when the subsidy amounts from the government are transferred into the farmers' bank accounts. The KSCs cannot be used to draw cash from ATMs or to purchase other commodities; they can operate only on the special swipe machines kept at the designated seed/fertilizer stores. Taking care of the small and marginal farmer who has difficulties in upfront payments.

Technology today enables subsidy on agricultural inputs to be delivered an efficient, transparent and in inclusive manner via DBT in seeds. Once the system gets accepted by farmers, extending it to fertilizers and other inputs is a natural corollary. A successful implementation will require an extensive approach to first make the farming community comfortable with financial inclusion. Open their accounts, operate them, transact via ATMs or mobile banking, and check their account balances and their details. Though this may take some time, but with the speed of implementation of various technology based schemes of the government, the day wouldn't be far when the dream of transferring the benefits to the intended beneficiaries is realized in its true sense and be beneficial for both the exchequer and the deserving farmers.

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