ISSN : 0974 - 8482

The

ORISSA JOURNAL OF COMMERCE

A peer reviewed, UGC listed & referred Journal

Volume XXXIX January, 2019 Number - 3

A Publication of

Orissa Commerce Association

Journal's website : www. ojcoca.org
E-mail id : malay@ojcoca.org

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EDITORIAL

Subsidy is a transfer of money from the government to an entity. It leads to a fall in the price of the subsidised product. The objective of subsidy is to bolster the welfare of the society. It is a part of non-plan expenditure of the government. Major subsidies in India are petroleum subsidy, fertiliser subsidy, food subsidy, interest subsidy, etc. The subsidy in India comprises of four broad categories of expenditure: fuel, fertiliser, food and employment (MNREGA). The Direct Benefit Transfer of LPG, followed with Pradhan Mantri Ujjwala Yojana. This is even as the Ministry continued to solve the contentious issue of gas pricing and introduced differential pricing, legacy issues in production sharing contracts, and revamped the country's exploration policy. The Ministry of New and Renewable Energy (MNRE) offers financial incentives to a proponent who plans to set up a waste-to-energy project as per the prevailing policies of the ministry. The incentives are given to both private as well as public sector entrepreneurs and investors having technical and managerial capabilities MNES gets the detailed project reports appraised by the financial institutions. Further, in the long term, a calibrated approach is needed in designing of subsidy management policy. This means that the government needs to get on with the policy reforms and at the same time start cutting back on the subsidies in different ways and means. Doing just one without the other would not help achieve the desired result. Reforms can only be made in the subsidy management system when the policy- makers and politicians will understand that the question is not whether to subsidise or not, but who to subsidise and how. Thus, the research papers of this issue understand the all the stake holders to understand and make the future endavor.

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Orissa Journal of Commerce, Volume XXXIX, January - 2019, Vol - 3, Pg - 1 -10 *ISSN : 0974 -8482*

IMPACT OF MGNREGA ON RURAL ECONOMY - A STUDY OF BOLANGIR DISTRICT IN KBK REGION OF ODISHA

**** Kishor Ch. Sahu***
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ABSTRACT

In spite of the several measures taken by the government of India through different plans, programmes and policies, the unemployment and poverty is still persisting in the society since long. In order to alleviate the rural poverty, the Government of India enacted the world's largest poverty eradication programme called National Rural Employment Guarantee Act during the year 2005 which has renamed as MGNREGA on 2nd October, 2009. The primary objective of this act is to enhance the livelihood security of rural poor by providing 100 days of guaranteed wage employment during a financial year at an equal wage rate of both male and female. On the basis of secondary data for last nine years from 2008-09 to 2016-17, this study is an attempt to examine the impact of the scheme on employment and income generation, arresting of migration and creation of durable assets for sustainable development in a social-economically back ward district, Bolangir. The analysis of data found the poor performance of employment as an average of only 10% of house hold completed 100 days of work in a financial year. Further the average number of days of employment per house hold is also below 50 days in most of the years which is half of the target. However, the mandate of one third of employment has been provided to the women as per the provision of the act. MGNREGA has also positive impact on women empowerment as about 99% of active women worker are holding the bank or post office account which is the indication of financial inclusion among the weaker section of society. Finally, The study emphasized on the proper planning and timely allotment of job with regular payment for the fulfillment of the basic objective of the scheme towards the rural upliftment.

Key words : Emphasized, Livelihood, MGNREGA, Migration, Sustainable

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INTRODUCTION

Indian economy is predominantly a rural economy as two-third of population and 70% of total workforce resides in the villages. Thus, the real development of the country lies with the development of the rural masses. Mahatma Gandhi the father of young India has rightly said that the soul of India resides in the villages. Therefore rural development has been the core of planning process of the country since independence. In order to uplift the rural sector a number of poverty eradication and welfare programmes have been implemented by the successive government of India from time to time. The major programmes which have been initiated by the government are National Rural Employment Programme (NREP), Rural Landless Employment Guarantee Programme (RLEGP), and Training of Rural Youth for Self Employment (trysem), Integrated Rural Development Programme (IRDP) and Jawahar Rojgar Yojana (JRY). However, the country is still witnessing the low per capita income, poverty, unemployment, starvation death, malnutrition and rural migration. Undoubtly, it can be realized that unemployment, underemployment and disguise employment are the basic causes of poverty which not only depresses the standard of living of people but also lead to grave social, economical and political consequence. According to Planning Commission, Government of India, the rural poverty during the year 2004-05 was estimated to be 21.80%, and as per the Tendulkar Committee Methodology it was reported as 41.8%. Hence as a solution of unemployment and poverty the government of India enacted the National Rural Employment Guarantee Act (NREGA) in 2005.This came in to force on 2nd February, 2006 on a pilot basis in 200 districts and from 1st April, 2008 extended to cover all 685 districts of the country. On 2nd Octover,2009 this act is renamed as Mahatma Gandhi National Rural Employment Guarantee Act which is considered as 'silver bullet' for eradicating of poverty and unemployment by way of providing 100 days of guaranteed wage employment to every rural house hold willing to do unskilled manual work. The special features of this scheme is that it provides legal guarantee of works on demand within 15 days of application failing which unemployment allowance shall be payable by the state government to the applicants. This act is designed for fostering women empowerment by reserving one-third of employment to women with an equal wage rate of male. MGNREGA is a centrally sponsored scheme in which the state government has accorded highest priority for implementation through Gram Panchayats. This scheme has started with initial budget out lay of Rs.11, 300 crores in 2006-07 which has increased to record of Rs. 48,000 crores during the current financial year 2017-18.

Relevance of the study

MGNREGA has been implemented in Odisha in1st phase during the year 2006 in 19 districts including all the districts of KBK region. The KBK district which comprises of Kalahandi, Bolangir and Koraput now divided in to 8 districts namely Kalahandi, Nuapara, Bolangir, Sonepur, Koraput, Malkangiri,Nawrangpur and Raigada is a most backward region of the country. This is a tribal dominated region and about 90% of people live in villages. Bolangir is a part of KBK region located in western Odisha in which rural population comprises of 88.03 % as against 11.97 % of urban population as per the census 2011. The district is also industrially backward in spite of its vast natural resources .So the district economy is predominantly agricultural in character. Persistence crops failure, unemployment, acute poverty and migration of labour are the leading manifestation of this district. Knowing the importance, the MGNREGS has been implemented in 14 blocks including 317 Gram Panchayat of Bolangir district in first phase during the year 2006. Till the end of the financial year 2016-17, a total number of 2, 93,436 household consisting of SC (51246), ST (65976) and other category (176214) have been issued job card under the scheme in this district. In this context MGNREGA is the hope of ray of the rural poor for their

economic and social upliftment. Thus, this study possesses greater relevance to examine the impact of MGNREGA on rural economy with special reference to Bloangir district in KBK region of Odisha in term of providing employment and sustainable development.

Review of literature

Jandu (2008) attempted to study the women's participation in NREGS by conducting a survey in four states namely, Chhatisgarh, Madhya Pradesh, Odisha and Tamil Nadu. He observed that women workers are more confident about their roles as contributors to family expenditure and their work decision and it gives them space in public sphere.

K.V.S.Prasad (2012) in his research paper " Performance of MGNREGA: An over view" opined that India's MGNREGA is the only Act which gives its rural people such a right and that too in the era of liberalization, Privatization and Globalizations (LPG).It serves as an effective safety net for the unemployed especially during famine and draught. He also stated that the act has confined the rural poor to their areas and stopped migration to the cities.

Sharma (2013) in her article "Government initiative in rural employment" viewed that in the present day's scenario government NREGA is perhaps the largest employment generating programme in the world ensuring a one-step moved towards guaranteeing the right to work in a country with population over a million.

B.Thomas (2014) concluded in his book 'NREGA and quality of life of beneficiaries' that with NREGA scheme India embarked on an ambitious attempt to battle poverty by guaranteeing employment to those who demand work.

A.Ranjan (2016) in her book based on research entitled 'MGNREGA and women empowerment' viewed that this scheme is a massive effective step on the part of the government of India to create employment as well as boost to boost rural development.

Statement of research problem

It is first time in the history of India a programme like MGNREGA launched as an act to provide livelihood security to rural people exclusively among unorganized labour force. The Mahatma Gandhi National Rural Employment Guarantee Scheme is in consonance with the idea of sustainable development whose important cardinal component is economical, social and environmental sustainability. The recent global human development report (GHDR) 2015 refers to MGNREGA as one of the milestones in social protection measure in the world which comparable with cohort schemes of rural employment for public assets in Bangaladesh, Jefes De Hogar in Argentina and the limited Karnali programme in Nepal. Hence the following questions raised in the mind for research whether the scheme has successfully implemented in a socio-economically backward district like Bolangir.

- Has it provided employment on demand and helpful for income generation ?
- Is 100 days of guaranteed employment provided to the job seeker as per the Act ?
- Does it helpful for the empowerment of rural women ?
- What is the implication of MGNREGA on assets creation ?

Objectives of the study

The specific objectives of this research paper are:

- To examine the allotment of job on demand and income generation under MGNREGA.
- To study the impact of the scheme on women empowerment.
- To access the impact of MGNREGA on rural migration by providing 100 days of guaranteed employment.
- To understand the assets creation under the scheme for sustainable development.

Hypotheses

- Employment has been provided to the job-seeker on demand under MGNREGA.
- MGNREGA has positive impact on the empowerment of the rural women.

Research methodology

The study is mainly based on secondary data collected from the office of the Project Officer, DRDA, Bolangir and the web sites of NREGA, Department of Rural Development, and Government of India for last five years. The relevant data also obtained from District Statistical Office, Bolangir, Economic Survey of Odisha, various monitoring evaluation reports of Ministry of rural development and professional body, different books, magazines, journals and articles of national and international publications and operational guideline of MGNREGA.

DATA ANALYSIS

Impact on employment and income generation

The basis entitlement of Mahatma Gandhi National Rural Employment Guarantee Act is to enhance the livelihood security of rural poor by providing wage employment on demand within 15 days of application, otherwise unemployment allowance will be paid by the state government to the applicants. The demand and employment under the scheme for the last nine years have been tabulate below for analysis.

Table 1: Demand and Employment under MGNREGS in Bolangir District

Year	Household demanded employment	Household provided employment	Gap between demand and employment (%)
2008-09	54036	53343	1.28
2009-10	61422	61012	0.66
2010-11	61781	61419	0.59
2011-12	58212	58049	0.28
2012-13	74578	60712	18.59
2013-14	81656	67012	17.93
2014-15	66416	50153	24.49
2015-16	103607	86205	16.80
2016-17	116935	89761	23.24

Source : *DRDA, Bolangir*

The analysis of data relating to demand and allotment of job, the performance of MGNREGA in Bolangir district is comparatively better during the first four years from 2008-09 to 2011-12. As almost all the job seeker provided employment under the scheme during the above periods. The situation stated worsens from the year 2012-13 to 2016-17 by widening the gap between demand and assignment of job. In the year 2014-15 highest 24.49% of households did not provide employment and deprived from their right. This indicates the lack of proper planning and inefficiency of the implementing agency.

Table 2: Wage expenditure under MGNREGS in Bolangir District.

(Rs.in Lakh)

Year	Total fund available	Expenditure on wages	% of wage expenditure	Average wages income per household
2008-09	4338.16	2117.12	61.87	0.04
2009-10	4534.51	2188.49	53.60	0.04
2010-11	5534.31	3130.95	56.96	0.05
2011-12	5356.70	2649.97	60.71	0.05
2012-13	5933.60	3421.63	61.15	0.06
2013-14	5793.95	4904.96	78.18	0.07
2014-15	8861.88	7977.85	84.74	0.16
2015-16	8949.29	7815.38	83.02	0.09
2016-17	9871.15	7908.13	80.11	0.09

Source : *DRDA,Bolangir*

As per the provision of the act, the wage - material ratio of 60:40 must be maintained in utilizing the available fund under the scheme. The data of table 2 shows that in two consecutive years 2009-10 and 2010-11, the stipulation of utilizing of at least 60% of fund has not been followed in the district which indicates the serious violation of the act. So, it leads to decrease the wage employment opportunity for the rural people. However, in all other seven years more than 60% of fund has been utilized towards the wage expenditure. Even during the last three years from 2014-15 to 2016-17, more than 80% of allocated fund has been spend on wages indicating the improvement in financial performance under the scheme. It can also be noted that highest 84.74% of fund utilized for wage payment in the year 2014-15 which lead to an increase of average annual income per house hold amounting to Rs. 16000. On the other hand the average wage income per household is lowest Rs. 4000 in the first two years. Though it increased to highest in the year 2014-15, again it stated declined to Rs. 9000 per house hold.

Impact on Women empowerment

The Mahatma Gandhi National Rural Employment Guarantee Act is sensitive towards women by reserving one third of employment for women. Priority is also given to the women workers for assignment of job nearness to their villages. The year-wise employment provided to the women workers in term of person days has been shown in table 3.

Table 3: Person days of employment generated among women under MGNREGA

Year	Total Person days	Women Person days	% of women person days
2008-09	1872439	522136	27.88
2009-10	2579064	921073	35.71
2010-11	3035753	1204410	39.69
2011-12	2145222	820364	38.24
2012-13	2786551	1046806	37.57
2013 14	3700840	1303863	35.23
2014-15	1985077	731975	36.87
2015-16	4709298	1862024	39.54
2016-17	3927123	1607747	40.94

Source : *DRDA, Bolangir*

Person days generated under the scheme in Bolangir district for the last nine years indicate that in the year 2008-09 lowest 27.88% of total person days of employment provided to the women workers which is less than the entitlement of one third of employment for women. On the other hand the person day of employment for woman is more than 33% in all other years under study indicating highest 40.94% in the year 2016-17. Thus the study reveals the positive impact of MGNREGA on women empowerment in term of person days of employment. Women recognize as earning member in the family and also feel involvement in creation of community assets.

Bank Account of women

In order to prevent leakage and corruption payment of wages through the account of the beneficiaries is mandatory under the scheme. Holding of account is one of the parameters of financial inclusion which indicates economic empowerment of women.

Table 4: Bank/Post Office accounts of women workers

Particulars	Number	(%)
Registered women workers under the scheme	3,14,675	45.90
Women having account	187743	59.66
Women having joint account	143940	45.74
Women having individual account	43803	13.92
Number of Active women workers	129968	41.30
Active women workers having Account	129705	99.80

Source : *Source : http://nrega.nic.in*

From table 4, it is noticed that the total number of 3, 14,675 women workers consisting about 46% registered under the scheme. Out of which the active women workers constitutes 41.30%. It is also remarkable that almost all the active women workers have joint or individual account the bank or post office. On the total 59.66% of women are having account of which 13% have individual account. The payment through account is reduced the wasteful expenditure and increase the habit of saving among the women. Holding of account also boost the self-esteem and self-confidence among the women and helpful for their empowerment.

Impact on migration

The KBK region of Odisha is well known for distress migration. Bolangir district remains tops in migration as large number of people mostly belong to the landless category and small and marginal farmers migrate to Tamilnadu, Andhra Pradesh and Bangalore for employment after harvesting season. MGNREGA, the flagship programme of government India has been implemented as an effective tool to curb distress migration by way of providing100 days of guaranteed employment. During the financial year 2015-16, the central government hiked the work days from 100 days to 150 days in the drought hit areas. Soon after the declaration, the Government of Odisha increased it from 150 days to 200 days by shouldering all cost of additional 50 days of work. The year-wise number of days of employment provided to the house hold has been tabulated below.

Table 5: Number of household provided 100 days of employment

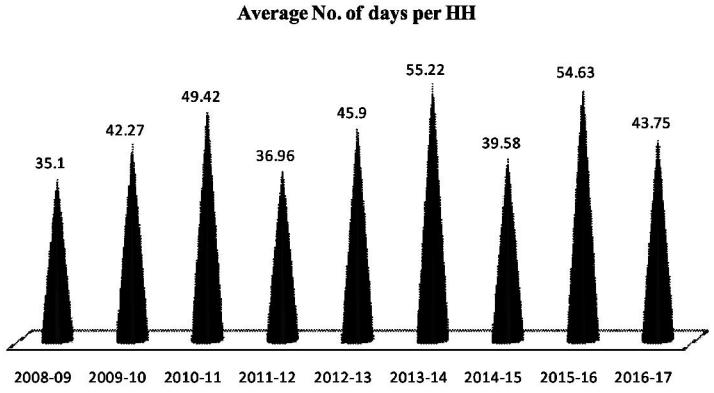
Year	Household completed 100 days	% of Household completed 100 days
2008-09	2003	3.75
2009-10	5574	9.14
2010-11	5925	9.65
2011-12	4691	8.08
2012-13	7164	11.80
2013-14	12313	18.37
2014-15	2516	5.02
2015-16	13010	15.09
2016-17	2816	3.14

Source: *DRDA,Bolangir*

It is evident from table 5 that highest 18.37% of household provided 100 days of employment in the year 2013-14 in Bolangir district. Even during the drought affected year 2015-16, only 13010 families consisting 15.09% provided 100 days of employment as against the demand of 86205 household. Out of nine years under study, the 100 days of employment is less than 10% in six years. It is also pertinent to note that 3.75% and 3.14% of household provided 100 days of employment during the year 2008-09 and 2016-17 respectively. Thus, the entitlement of providing 100 days of employment is far from the target.

An average number of days of employment allotted to each household under the scheme for the period from 2008-09 to 2016-17 has been assessed and exhibited in the figure 1.

Figure 1: Average number of days of employment under MGNREGA



Source: *Source : http://nrega.nic.in*

As shown in figure 1, as much as 55 days of employment has been provided to the household on demand during the year 2013-14 and 2015-16. In all other years under study the average number of days of employment per family is less than 50 days and in the year 2008-09 it was lowest 35 days per household. Thus it can be inferred that MGNREGA is not arresting the rural migration to its full potential and it is clearly visible in large scale in the railway station and bus station of the different towns of the district.

Impact on creation of sustainable Assets

One of the basis objectives of MGNREGA is to create infrastructure for the sustainable rural development. The special emphasis have been given towards the water conservation and water harvesting, drought proofing including aforestation and trees plantation, irrigation canal, renovation of traditional water bodies , flood control and land development etc. The sectorwise assets creation in Bolangir district under the scheme for the period from 2012-13 to 2016-17 has been tabulated and analysed.

Table 6: Sector wise assets creation under MGNREGA from the year 2012-13 to 2016-17

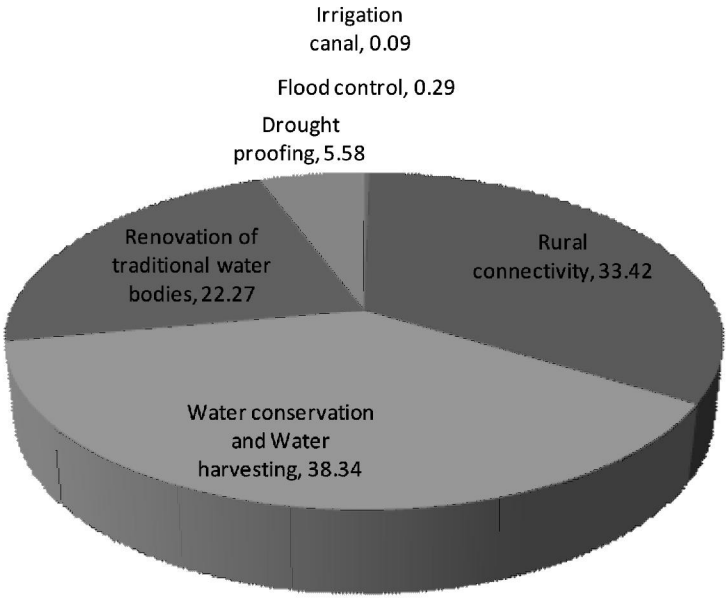
Nature of work	2012-13	2013-14	2014-15	2015-16	2016-17	Total
Flood control	03	02	01	07	21	34
Rural connectivity	970	440	413	342	1691	3856
Water conservation and water harvesting	675	498	442	329	2478	4422
Renovation of traditional water bodies	531	379	339	209	1110	2568
Drought proving	38	30	25	39	511	643
Irrigation canal	04	00	00	01	05	10
Total	2221	1349	1220	927	5816	11533

Source : *http://nrega.nic.in*

The characteristics of data exhibited in table 6 indicates that total number of 11533 assets created under the scheme in the district with highest number of 4422 works under water conservation and water harvesting followed by 3856 number of project of rural connectivity. It is also remarkable that lowest number of 10 project of irrigation canal and 34 number of flood control works have been created during last five years. The year-wise analysis of data also indicate that priority has been given for the execution of work relating to rural connectivity during the year 2012-13 and 2015-16 comprising 970 and 342 number of projects. On the other hand, highest number of assets of water conservation and water harvesting has been created in all other years under study. It can also be noted that not a single project of irrigation canal has been executed during the year 2013-14 and 2014-15. The performance of MGNREG in creating community assets is highest in the year 2016-17 comprising 5816 number and lowest in the year 2015-16 with 927 numbers. Creation of assets under the scheme not only provide wage employment to the rural poor but also creates community assets which will lead to sustainable development of rural economy.

The assets created under MGNREGA during the last five years in Bolangir district has been depicted in figure 2.

Figure 2: Sector – wise assets created under MGNREGA during last 5 years



Source : http://nrega.nic.in

The above diagram clearly exhibits that more emphasis has been given for the creation of water conservation and water harvesting, followed by rural connectivity and renovation of traditional water bodies. On the other hand, insignificant number of assets of irrigation canal and flood control project has created under the scheme.

Major findings

- The study found about 20% gap between demand and allotment of job under MGNREGA in Bolangir district during last five years from 1012-13 to 2016-17 which deprive the household from their right of employment.
- Under the scheme at least 60% of fund has been utilized towards wage employment as per the provision of the act. Further the average annual income per house hold ranges from Rs.4000 to Rs.16000 during the period of nine years under study.
- It is found that woman has been provided at least one –third of total employment under the scheme .Further, about 60% of registered women workers and all most all the active women workers are having account in the bank or post office.
- The entitlement of 100 days of guarantee wage employment is found far from the target in the district as highest 18.37% of house hold provided 100 days of work during the year 2013-14.The average number of days of employment per family is also quite unsatisfactory as it is below 50 days in all years except 2013-14 and 2015-16. Thus the scheme failed to check rural migration up to the mark.
- The scheme has positive impact on the creation of rural infrastructure by giving emphasis on rural connectivity, water conservation and water harvesting with poor performance of the creation of irrigation canal which is most essential for agricultural development.

Suggestions

- Proper planning of works at the grass root level and proactive role of the administration is essential to provide job on demand.
- Timely allotment of job and increase of wages rate along with regular payment can attract the labour force in its fold and check rural migration.
- Emphasis must be given for quality assets and its maintenance along with the creation of the irrigation canal and flood control project which are essential for the development of agriculture and village economy.
- Worksites facilities such as child care, drinking water and shed must be provided to increase the participation of rural women in the scheme.
- Creation of wider awareness among the villagers is essential to avail their right of work, unemployment allowance and compensation for late payment.

Conclusion

MGNREGA committed to provide 100 days of wage employment in a financial year on demand. But, the study found that the entitlement of providing 100 days of employment is far from the target and expectation. The average number of days of employment also below 50 days in almost all the year under study and hence it has no visible impact to check rural migration. However, the scheme has positive impact on women empowerment by providing at least 1/3rd of total employment and income generation. Thus the Mahatma Gandhi National Rural Employment Guarantee Act has every potential towards the upliftment of rural sector, but it needs the proper implementation on the ground. Otherwise, the noble objective of the act will be diverted on its path and face the same fate of the earlier programme implemented in the past.

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Orissa Journal of Commerce, Volume XXXIX, January - 2019, Vol - 3, Pg - 11 -18 *ISSN : 0974 -8482*

A STUDY ON THE FARMER'S PERCEPTION AND REGIONAL RURAL BANK'S ATTITUDE TOWARDS AGRICULTURAL FINANCE IN KENDRAPARA DISTRICT, ODISHA

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***** Dr. Tusarkanta Pany***

ABSTRACT

Agriculture is the backbone of our economy and its prosperity can largely be responsible for the well being of entire economy. Agriculture finance play a vital role in agro-socio-economic development of the country both at micro and macro levels. Its catalytic role strengthens the farming activities and augments the productivity of scarce resources. This study evaluates performance of RRB's in deploying agricultural credit in study area. An attempt has been made in this research to ascertain farmer's perception on Agricultural finance provided by Regional Rural Banks. The study is based on primary and secondary data. Secondary data are collected from annual reports of NABARD, Potential Linked Credit Plan of NABARD, and Lead Bank Annual Credit Plan.

Key Words : Agriculture Finance, Regional Rural Banks, Farmers Perception, Bankers Attitude, Odisha Gramya Bank.

INTRODUCTION

Agriculture is the core sector of Indian Economy. The state of Odisha is an agrarian state with agriculture and animal husbandry sector contributes more than 15.39% of gross state domestic product and 60% population of the state draw their sustence fully or partly from agriculture. It is essential to improve agricultural production and productivity with better technology in agricultural sector. Agricultural credit is vital input for augmenting agricultural production and helps a lot to the poverty stricken farmers of odisha. Therefore various growth of agriculture sector demands adequate flow of finance.

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The flow of finance to agriculture comes from both non- institutional (village money lender) and institutional source comparise commercial banks, co-operative banks and regional rural banks. The commercial bank including RRBs provide both short and medium term loans for agriculture and allied activities. The co-operative banks provide short and medium term loans to the farmers with association of primary agriculture co-operative societies (PACS). The national banks for agriculture and rural development (NABARD) are the apex institution at the national level for agricultural credit and provide refinance assistance to the agencies stated above. The reserve bank of India act a crucial role in the spear by giving overall direction to rural credit and financial support to **NABARD for its operations.**

The banking commission (1972) recommended to establish an alternative institution for rural credit and govt. Of India established RRBs as a separate institution for rural credit on the basis of reconditions of the working group under the chairmanship of Shri M. Narshimaham. Subsequently the regional rural banks were setup through the promulgation of RRB act of 1976. The RRBs act succulently sum-up this overall vision to subservice both the developmental and the redistributive objectives. The RRBs were established "with a view to developing the rural economy by providing for the purpose of development of agriculture, Tread, Commerce, Industry and other productive activities in rural area particularly to small and marginal farmers, agricultural labourers, artisans and small entrepreneurs and for matters connected therewith and incidental thereto"

Objectives

1. To understand the attitude of RRBs towards agricultural credit in study area.
2. To examine the performance and progress made by RRBs in agricultural credit
3. To assess the agricultural credit performance through sample respondents
4. To evolve a package of measures for making RRBs effective in agricultural credit deploying.

Methodology:

To achieve the objectives set-forth the study is based on both primary and secondary data.

(1) Primary data are collected from sample respondents for perception analysis of farmers.

(2) Secondary data are obtained from the published sources like – NABARD focus paper, Lead Bank Annual Reports and Journals like Yojana Kurukshetra etc.

Scope of the Study

The study is confined to the farmers engaged in cultivation of kendrapara district of odisha. It provides the details of status of farmers perception of the farmers about agricultural finance and problems encountered by farmers for obtaining agricultural loan and socio-economic background of the farmers. It covers the farmer's perception towards agriculture finance provided by RRBs in Kendrapara district of Odisha.

Importance of the Study

This article of research evaluates financial performance of Regional Rural Banks (RRBs) in study area. The result of study useful to the policy maker, planner and government to take necessary action to improve the working of RRB in micro and macro level in India.

Regional Rural Bank : Odisha Gramya Bank – A profile

Odisha Gramya Bank was established since 7th January 2013 with the amalgamation of Neelachal Gramya Bank, Kalinga Gramya Bank and Baitarani Gramya Bank as per government of India section 23A of Regional

Rural Bank Act 1976 (21 of 1976). The shave capital of the bank is contributed in ratio of 50:15:35 respectively by the government of India, Govt. of Odisha and Indian Overseas Bank, the sponsor bank. This bank provides all banking services in its command area coverage 13 districts of Odisha namely: Angul, Balesore, Bhadrak, Cuttack, Dhenkanal, Jagatsinghpur, Jajpur, Kendrapara, Khurda, Kenjhor, Mayurbhanj, Nayagarh and Puri.

The bank has 983 branches in 13 districts. There are 2 RRBs operating in the state of Odisha as on 31st March 2015 the head office of the bank is situated at Bhubaneswar and has 9 Regional offices.

In study area, there is only one RRB called Odisha Gramya Bank functioning with 27 branches (25 in Rural and 2 in semi-urban)

Agricultural Credit in India – An Assessment

Credit flow to agriculture comes from Commercial Banks, Regional Rural Banks and Co-operative Banks. The extent of institutional credit for farmers is given in Table 1.

Table – 1 Institutional Credit to Agriculture (Corers)

Year	Commercial Banks	Percentage	Regional Rural Banks	Percentage	Co-operative Banks	Percentage
2010-11	285800	74	35217	9	63497	17
2011-12	345877	74	44293	9	78121	17
2012-13	368616	72	54450	11	87963	17
2013-14	432491	72	63681	10	111203	18
2014-15	509005	71	82653	12	119963	17

Sources – Economy Survey, NABARD, Annual Reports.

Table – 1 indicate that total agriculture credit from institutional sources have been increased from 2010-11 to 2014-15. But commercial banks and co-operative banks contribution to agriculture stable as compared to RRBs. Regional Rural Banks contribution has been increasing year after year from 9% to 12% .

Agricultural Credit – The role of Regional Rural Banks in Odisha.

The RRBs have now become an integral part of the rural banking of the state and are playing a commendable role in providing credit and banking service to the farmers in the state in the state of Odisha with a branch network of 983 branches (834 rural ,104 semi-urban and 45 urban branches)

Table –2 Performance of Regional Rural Banks (Corers)

Particulars	2011-12	2012-13	2013-14	2014-15	Increase / Decrease	
		2013-14	2014-15			
No. of branches	885	901	951	983	5.26	3.26
Owned funds	944	1043.54	1017.51	1017.51	-2.56	0.00
Deposits 9648.3	10155.0	11228	11942.22	9.56	5.98	
Borrowings	586.7	660.07	964.54	888.64	31.51	-8.54
Investments	4940.5	5306.18	5981.57	6336.61	11.29	5.60
Loan & Advance	5649.3	6170.26	6663.48	7083.01	7.40	5.92
Net Profit 74.4	38.84	42.27	-156.25	8.11	127.05	
Gross NPA(%)	6.01	12.76	9.70	25.09	-3.06	15.39
CD Ratio (%)	58.5	60.76	59.35	59.31	-1.41	-0.04
Recovery (%)	70.8	74.67	73.48	72.25	-1.19	-1.23

Source: *(Audited Financial Statement of NABARD)*

As on 31 March 2015, out of 983 branches of RRBs, 95% of them were in rural and semi-urban areas. Total deposit of RRB were Rs. 11942.22 corer as on 31 March 2015 which increased at 5.98% over the last year. Likewise total loan outstanding increased at 5.92% and stood at 7083.01 corer as on 31 March 2015. The C.D Ratio declined marginally from 59.35% as on 31 March 2014 to 59.31% as on 31 March 2015, mainly on account of relatively higher growth of deposits. During 2014-15 both RRBs incurred losses. The total loss of RRBs during 2014-15 were 156.25 corer as against 42.27 corer of profit during the previous year. Gross NPA as percentage of total loans and advances drastically increased from 9.7% as on 31 March 2014 to 25.09% as on 31 March 2015. Recovery position decreased from 63.48% during 2013-14 to 72.25 % during 2014-15. The C.D ratio of RRBs in the state was only 59.31% as on 31 March 2015.

Table – 3 Agricultural credit by financial Institutions in Kendrapara (Odisha State) Rs. in "000

Sl. No.	**Agriculture Sector**	**2010-11**	**2011-12**	**2012-13**	**2013-14**	**2014-15**	**2015-16**	**2016-17**	**2017-18**
1	Crop Loan	14127	20853	23964 (14.92%)	36126 (50.75%)	49405 (36.76%)	62006 (25.5%)	65737 (6%)	74552 (13.4)
2	Agri Term Loan	3738	5113	5755 (12.56%)	6286 (9.23%)	10634 (69.17%)	11150 (4.85%)	18618 (67%)	19770
3	Allied Agri Activities	4298	6541	6789 (3.79%)	6382 (-5.99%)	9046 (41.74%)	10921 (20.7%)	15363 (41%)	42849
	Total	22163	32507	36508	48794	69085	84077	99718	114001
	Non Agriculture Sector								
1	MSME	1793	2096	3165	3679 (51%)	4502 (16.24%)	8603 (22.3%)	15389	22760
2	Education Loan	-	-	3170	3487	4080	4896	8738	18700
3	Housing Loan	-	-	5216	5683	6649	7979	13107	23800
4	Others Priority sector	10293	15235	10439	11537	12961	11875	4023	7530
	Total Priority sector	13786	19131	23890	26486	97777	117430	140975	224491
5	Non Priority Sector	1700	1800	1900	2100	2310	2610	2814	2038

Table No. -3 shows that crop loan percentage increased to 18.95%, Agri. term loan percentage increase to 18.91% and allied agriculture activities percentage loan increased to 10.03% respectively from the year 2010-11 to 2017-18 similarly MSME lending rate increased to 7.88% from the year 2010-11. Education loan and housing loan percentage increased to 16.95% and 21.9% from the year 2012-13 to 2017-18. Other Priority sector lending declined to 136% from the year 2010-11 to 2017-18. Non priority sector lending rate increased to 83.4% from the year 2010-11 to 2017-18

Table – 4 Performance of RRBs in Study Area (Kendrapara) As on 31.12.2018

Sectors	2010-11			2011-12			2012-13			2013-14			2014-15			2015-16			2016-17			2017-18		
Agriculture	Tr.	Ac	%	Tr.	Ac	%	Tr.	Tr.	Tr.	Tr.	Ac	%	Tr.	Ac	%	Tr.	Ac	%	Tr.	Ac	%	Tr.	Ac	%
(a) Crop Loan	887	767	76	1297	856	65	1480	1322	89	3177	191	06	4349	848	20	5505	708	13	11608	1224	11	5312	1115	21
(b) Agr. Term Loan	634	73	11	831	83	10	948	102	10	1502	90	06	2475	69	03	2453	181	07	1401	0	0	1770	3110	176
(c) Allied Agr.	803	127	15	801	58	07	837	75	08	1360	182	14	1906	108	06	2348	95	04	11030	0	0	750	0	0
(d) Non Farm Sector	485	56	11	358	27	07	505	36	07	1670	42	03	24	94	920	37	3951	1478	33	6685	1720	47	3063	3132	162
(e) Other PS	1918	606	31	1846	421	22	2200	624	28	2613	776	30	2252	791	35	1	698	677	40659	1772	269	264	1953	741

Table – 4 shows that Crop Loan achievement 76% in the year 2010-11while 21% in 2017-18 Agriculture term Loan increase from 11% to 176% allied sector achievement percentage is nil as compared to 2010-11 . Non farm sector trend increasing to 162% and other priority sector 741% as compared to 2010-11.

Table – 5 Key performance of RRBs in Study Area – Kendrapara District

Particulars	2013-14	2014-15	2015-16	2016-17	2017-18
No. of Banks	1	1	1	1	1
No. of Branches	24	25	27	29	29
Owned Funds	NA	NA	NA	NA	NA
Deposits	2300600 (7.04%)	2625721 (12.11%)	2954123(13.04%)	3445861(13.04%)	3896790(13.08%)
Loan & Advances	1167200 (14.53%)	1213561 (8.92%)	1322864 (6.49%)	1525866 (15.3%)	437414 (28.67%)
Net Profit	NA	NA	NA	NA	NA
CD Ratio (%)	51	42	45	44	40
Recovery (%)	79	80	77	79.8	80.09

Sources : *Complied from the reports of NABARD, BBSR*

Table – 5 shows that there is one Regional Rural Bank (OGB) functioning in study area. Number of branches increases 24 to 29 from the year 2013-14 to 2017-18. Deposit percentage increasing from 7.04% to 13.08% from the year 2013-14 to 2017-18 similarly loan and advance percentage increases from 14.53% to 28.67%. CD Ratio percentage declined from 51% to 40% during the period 2013-14 to 2017-18. The percentage of recovery volatile from the year 2013-14 to 2017-18.

Analysis and Interpretation of Data

The data collected were strategically analyzed by preparing appropriate tables for the same. The raw data pooled in the form of interview schedule were tabulated and analyzed with the help of statistical measures such as percentage analysis, perception Index.

Profile of Respondents **Table - 6**

Sl No.	Demographic Factor	No. of Farmers	Percentage(%)
1 Age:	Below 25(Years)	10	10
	25-50	80	80
	50-Above	10	10
2 Education:	No Formal	35	35
	HSC to +2	50	50
	Between +2 to UG	15	15
3 Gender:	Male	85	85
	Female	15	15
4 Marital Status:	Married	90	90
	Un-Married	10	10
5 Nature of Family:	Joint	85	85
	Nuclear	15	15
6 Block :	Aul	10	10
	Pattamundai	5	5
	Derabish	15	15
	Kendrapara	25	25
	Marshaghai	15	15
	Mahakalpada	5	5
	Garadpur	5	5
	Rajnagar	10	10
	Rajkanika	10	10
7 Size of Land Holding (Acres):			
	Less than 5	80	80
	5-10	15	15
	More than 10	2	2
8 Agriculture Income:			
	Up-to – 50000	10	10
	50000-100000	75	75
	100000-Above	15	15
9 Type of Agri. – Business:			
	Crop Farming	86	86
	Fishery	4	4
	Live Stock	2	2
	Poultry	3	3
	Farm Inputs	5	5

10	Problems reported by respondents:		
	Crop loan failure	60	60
	Lack of service	10	10
	Bankers behaviour negative	20	20
	Loan amount is not time	05	05
	High rate of Interest	05	05

Perception Index

Perception being a qualitative factor, in order to understand the level of perception of farmers, a perception index has been constructed. A number of relevant and related factors have been taken into consideration to measure perception of farmers. The following factors on agricultural loan provided by RRBs such as: loan scheme available, security for loan, margin money required, rate of interest, method of interest calculation, penal interest rate, repayment period allowed, pre-closer facility, transaction cost, insurance and consequence of non repayment have been taken into consideration.

The perception index has been calculated by applying formula

P.I = (No. of factors known / Total No. of factors considered) 100

If the score of a farmer fall below (mean – standard deviation), the perception is considered to be low. If the score lies between (mean + standard deviation), the perception is considered to be minimum. If the score is above (mean + standard deviation), the perception is considered to be high.

Inferences

- RRBs are always depends on policy of sponsored commercial bank for agricultural lending.
- Most of the farmers are in the age group between 25-50.
- Majority of the farmers education are up-to higher secondary.
- Majority of the farmers are mail, married and joint families.
- Most of the farmers are kendrapara block.
- Majority of the farmers size of land holding are less than 5 acres.
- Most of the farmers agricultural income are 50000 – 100000.
- Majority farmers are engaged in crop farming.
- Most of the farmers have objections on failures of crop loan.

Suggestions

In the light of above inferences, the following suggestions are offered to improve credit delivery to agriculture of RRBs.

- The Govt. of India has to provide some schemes to improve the share of RRBs in agriculture.
- Re-financing facility to RRBs should be maid available at subsidiary rate of interest by sponsoring bank and NABARD to improve its share of agricultural finance.
- The banks may give more attention for creating awareness about the loan scheme available for the farmers.

- Timely credit is highly essential and same should be ensured.
- Farmers have to be empowered with education on farm training and improve productivity.
- Bankers should show positive attitude towards farmers while delivering loan to them.
- Bankers should keep constant touch over the use of credit by farmers.

Conclusion

An attempt has been made in this article to examine the level of perception of the farmers provided by Regional Rural Banks in study area. A No. of loan scheme are offered by the banks for agriculture but poor awareness about the scheme create bottleneck among the farmers to utilised them. Finally conclude the perception of 80% of farmers about agriculture finance is medium, so that high awareness about agriculture finance to farmer essence agriculture productivity and improve farmers wealth.

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Orissa Journal of Commerce, Volume XXXIX, January - 2019, Vol - 3, Pg - 19 -27 *ISSN : 0974 -8482*

DIRECT BENEFIT TRANSFER : A NEW REGIME IN THE SUBSIDY MANAGEMENT

*** *Naupada Sunita***

ABSTRACT

The Direct Benefit Transfer is one of the most talked of scheme in the present scenario of the nation. It has revolutionized the system of the transfer of services and benefits to the actual beneficiaries. The present study highlights the reasons of emergence of such schemes and its components. It is for the first time bank accounts of the people were linked with Aadhar of the LPG consumers and provided subsidies with an intention to curb corruption, to detect ghost beneficiaries, to eliminate middlemen and most importantly ensuring financial inclusion. The study also throws light on the pros and cons of such scheme and at the end provides suggestions for proper implementation of the various schemes to make such an idea a great success.

Key words : *Direct benefit transfer, Aadhar, LPG.*

INTRODUCTION

The Direct Benefit Transfer has added one more feather on the cap of the government of India. It is so, because such an ambitious reform not only transformed the system of delivery of government transfer but also instilled in the minds of general public that their hard earned money wouldn't be wasted. Since decades, the government was involved in providing aid to the poor sections in form of basic necessities, but meanwhile it was seen that the services as well as benefits were not being transferred to the actual beneficiaries, thus to stop such pilferage of funds, wastage etc, the government reformed the form of transfer on 1st January 2013 in the name of Direct Benefit Transfer (DBT).

Normally, there exists multiple transfers from the government to the various sections of the society especially the have not's like wage payments, fuel subsidies, food grain subsidies, pension, scholarships etc, but the newness in the so-called direct benefit transfer scheme is that it provides subsidies and payments directly

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into the bank accounts of the beneficiaries, thus dropping off leakages, duplication, wastage, as a result enhancing financial inclusion. It is believed that the government spends about an amount of rupees 3.5 for providing financial support of rupee1.0 to the poor.

Concept of direct benefit transfer

The direct benefit transfer, as the name suggests, it indicates the timely and quick channelization of subsidy amount and other benefits directly into the bank accounts of the actual beneficiaries instead of providing it through government offices. In such scenario, there is no give and take policy rather government receives nothing in return from the beneficiaries. The idea of such scheme has been propounded by the UPA-2 government but strictly implemented by the NDA-2 government. The direct benefit transfer basically includes:-

Cash transfer to individual beneficiary : This category includes schemes or components of schemes wherein cash benefits are transferred by the government to individual beneficiaries. Example PAHAL, MGNREGA, NSAP and included the following -

- Subsidy schemes
- Welfare schemes with cash components
- Stipends and scholarships
- Cash awards for excellence
- Pensions

In-Kind transfer to individual beneficiary : This category includes schemes or components of schemes wherein kind benefits are given by the government to individuals through an intermediate agency and includes the following:

- Mid-day meal
- Swachh Bharat
- Training and skills development
- Assistance to state for control of Animal Disease

Other transfers or Processes includes:

- Honourarium
- Teachers in aided schools
- ASHA workers under NHM
- Sanitation staff in ULBs
- Payment to third parties for providing service i.e. Anganwadi workers and NGOs

There always lies a medium or intermediary to facilitate such transfer i.e called as DBT Enablers which are as follows:-

- Aadhar as the unique identifier
- Banking facilities
- Network infrastructure
- Business correspondents

Among the above, the Aadhar is the most preferred as it acts as a financial address and facilitates seamless financial transaction as well as allows for transfers through demographic and bio-metric authentication. Moreover, it helps to eliminate ghost beneficiaries through de-duplication.

Review of literature

Karan Macours (2013) stated that adequate evidence from the studies has substantiated the argument that cash transfer has helped to break the poverty cycle by enabling human capital formation among the youth of the poor families.

Partha Mukhopadhyay (2013) studied that the real potential lies in shifting thinking from targeting to traceability and mitigating transactional instrumentation in market transactions.

Suyash Rai (2013) analyzed that as long as operation is satisfactory, the basic direct cash transfer scheme that has initiated and the direct non-cash transfer of welfares based on Aadhar- based verification, are good thoughts.

Palanithurai (2013) stated that the people of India have less awareness about this scheme. People who are living in the rural and remote villages are totally unaware from the decision taken at the capital. They are not being provided the necessary background data and detailed information about the various programmes and schemes implemented by the government.

Fathima (2014) pointed out that central government of India would fetch fruitful results to the Indian economy provided proper implantation is made. This will not only make inflow of cash to the weaker sections but also strengthen the bank penetration to the remote and backward areas of India.

Farhina Sardar Khan (2014) argued that the initiative steps taken by the government of India for introducing direct cash transfer to the beneficiary personal savings account is in itself a milestone in the history of economic yet a lot of work is still need to make it flawless in its implementation.

Objectives of the study

The present study is intended to achieve the following objectives stated as below:

- To understand the meaning of direct benefit transfer and the schemes included in it.
- To make a comparison among the different schemes from the period of financial year 2013-2014 to financial year 2016-2017.
- To study the pros and cons derived from the application of such schemes.
- To detect the reasons behind less number of beneficiaries in various schemes.
- To provide suggestions for proper and systemic implementation of the direct benefit transfer schemes.

Methodology adopted

This study is based on secondary data collected from published sources like journals, magazines, newspapers, research papers, articles, annual reports and working papers etc. The study is purely descriptive and analytical.

The following are the benefits from Direct Benefit Transfer:-

- The implementation of direct benefit transfer schemes lead to the **elimination of middlemen**, thus leakages are lessened.

- The usage of **Aadhar** which is based on bio-metric identification resulted in identifying and removing fake and ghost beneficiaries.
- The **time bound transfers** helped in avoiding delays in transferring money.
- A healthy level playing field is ensured between the sellers in the market as the purchases are done at market prices.
- The **cost of maintaining** bureaucracy which was higher than the amount of subsidy supposed to save the exclusion of non-poor beneficiaries from the access to subsidized commodities are under control. As a result of which circulation of money became vibrant, hence boost the GDP and helps the nation to become cashless economy.
- The **Ujjwala Yojana Scheme** was initiated to provide free LPG connections to 5 million households spending rupees 8000 crore so that poor people can afford the deposit amount, cost of burner, regulator etc. which was previously impossible for them.

Even after successful implementation there are evidences where **situation mandates necessary action** to be undertaken in order to secure smooth functioning of the direct benefit transfer scheme stated as below:-

- There was seen problematic dependence on banking network as well as facilities, no doubt **Jan DhanYojana programme** was a solution to it but still cases of theft, forgery are equally rampant.
- It became unviable to establish commercial bank branch in every village, thus lead to the emergence of payments bank but still the bank staffs are reluctant to open zero balance accounts as they cannot earn profit out of it.
- Recently it was reported that only 14% of the rich consumers availing the benefit of subsidized commodities out of 25% of the LPG consumer base, surrendered their connections, thereby revealing the reluctance of the rich consumers to part with their benefit posing a question mark on humanity.
- Such schemes of benefit are still not a choice for dependants on firewood, cow dung patties and other biomass.
- The dominance of male in our society since generations deprived the women counterpart to remain secluded even from the share of cash which goes to the hands of the head of the households.
- The business correspondents/ Bank Mitras appointed by the banks cheats the illiterate beneficiaries by opening more than one account for each beneficiary, thus pocketing the hard earned money of the deprived sections of our economy.

Analysis and Interpretation

In order to have a more vivid picture about the direct benefit transfer, the scheme wise details of beneficiaries and direct benefit transfer transactions under *Aadhar Payment Bridge* and other electronic modes from 1st January 2013 to 31st March 2017 is given below:

Sl no.	Name of scheme	Total no.of beneficiaries in crore	Total no.of beneficiaries seeded with Aadhar in crore	% of beneficiaries seeded with Aadhar	Funds transfer using Aadhar payment bridge in crore	Funds transfer w/o using Aadhar payment bridge in crore	Total funds in crore	% of funds transfer using Aadhar payment bridge
1	MGNREGS	11.5	9.11	81.75%	13354.11	69829.68	83183.79	16.05%
2	NSAP	2.76	1.44	52%	2963.09	17767.15	20730.24	14.29%
3	PAHAL	18.73	15.32	81.79%	35546.30	16530.54	52076.85	68.26%
4	SCHOLARSHIP SCHEMES	2.27	1.18	52%	873.73	21022.86	21896.59	3.99%
5	OTHER SCHEMES	0.81	0.30	37%	263.79	4520.12	4783.91	5.51%
6	TOTAL	35.71	27.35	76.60%	53001.01	129670.35	182671.36	29.01%

Source : *https://dbtbharat.gov.in*

MGNREGS refers to Mahatma Gandhi National Rural Employment Guarantee Scheme

NSAP refers to National Social Assistance Programme which includes old age pension, widow pension and disability pension.

PAHAL refers to Pratyaksh Hanstantrit Labh meant for liquefied petroleum gas.

Scolarship schemes includes scholarship and fellowship schemes

Other includes remaining schemes.

Figure - 1

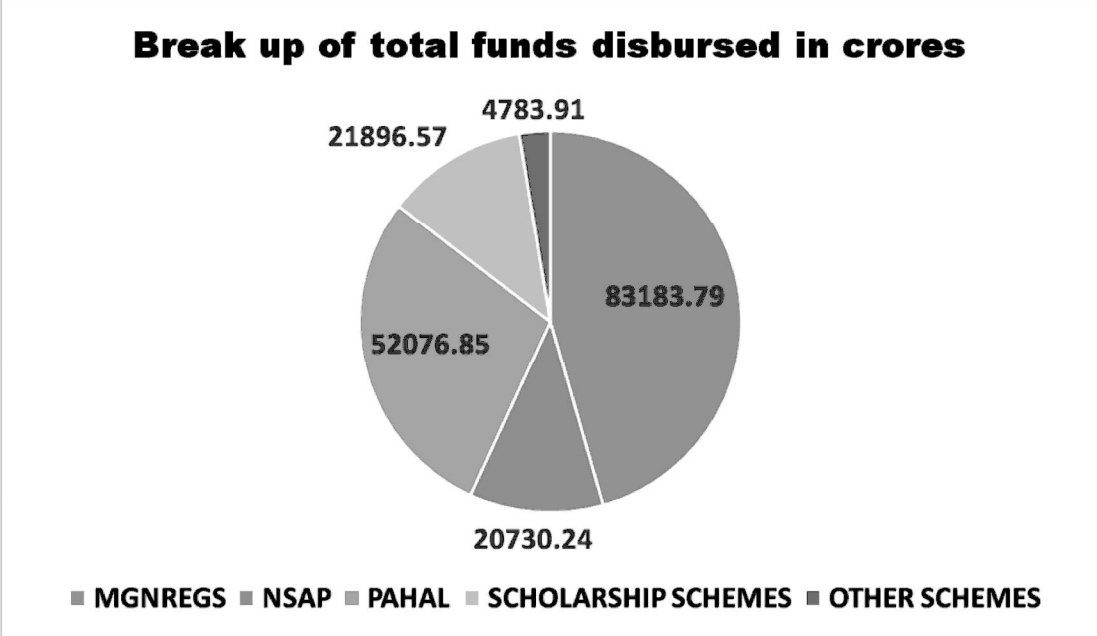


Figure - 2

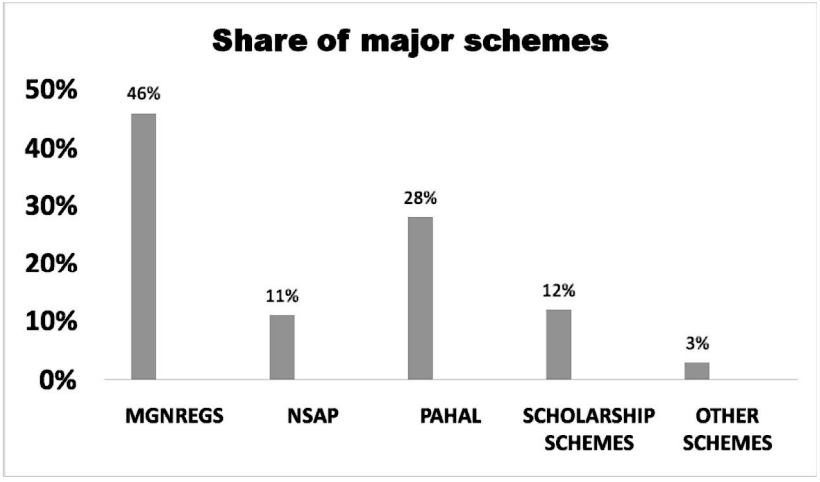


Figure 2 is based on the data of figure 1.

Figure 3:

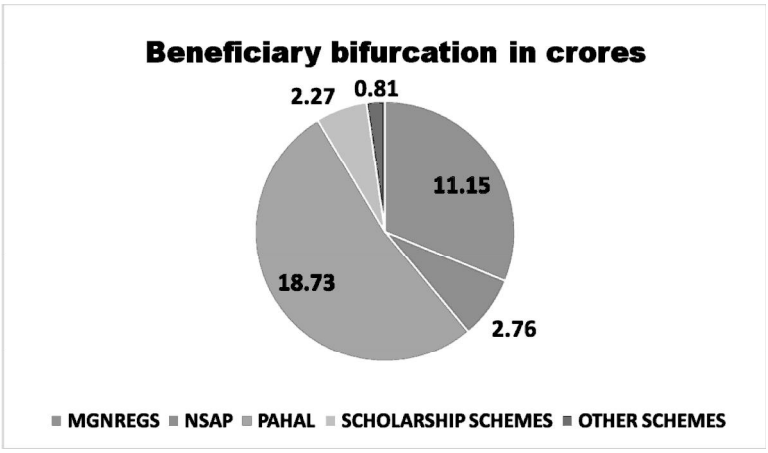


Figure 4:

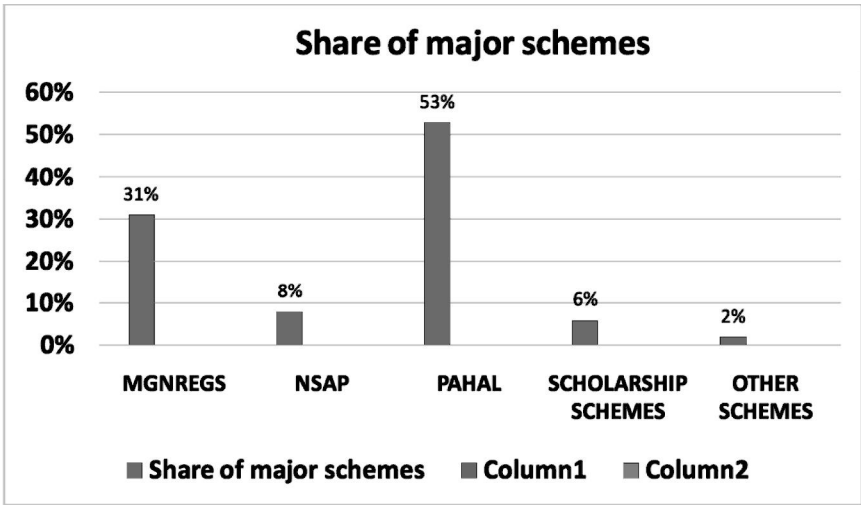


Figure 4 is based on the data of figure 3.

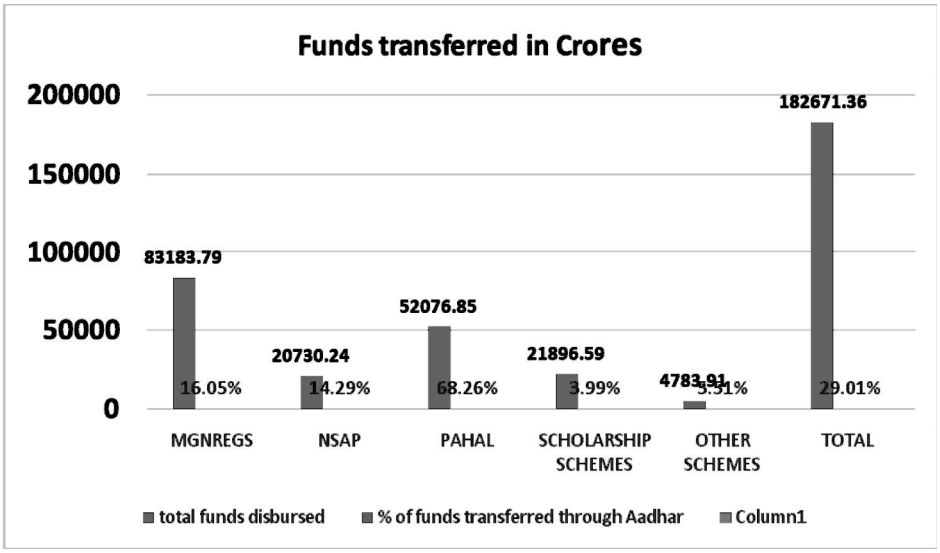
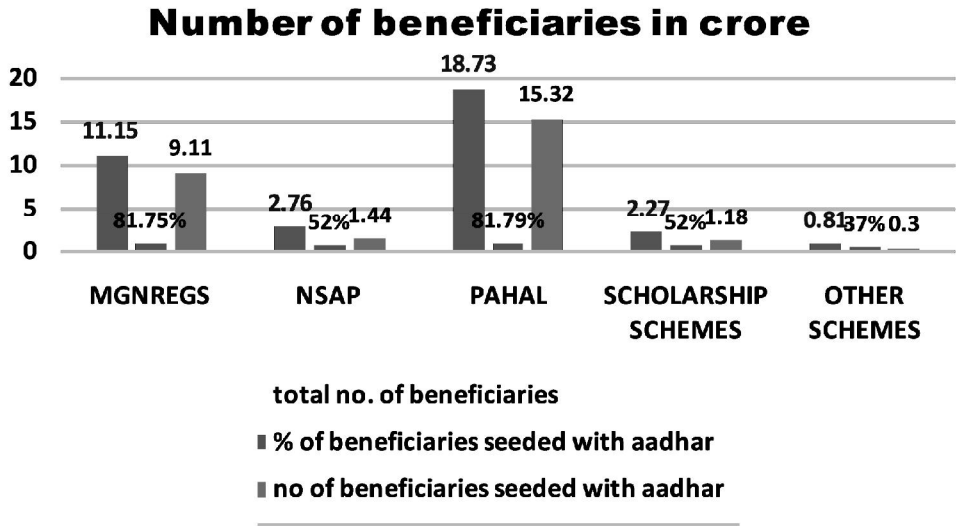


Figure 5:



Findings

- Even after PAHAL being the world's largest direct benefit transfer programme, it is only 3.5% of the total annual flow of government subsidies.
- In the previous financial year 2016-2017, a provision of rupees 20000 crore is made which is 8% of the total provision of rupees 250433 for the subsidies.
- Even after maximum amount of funds getting disbursed towards MGNREGS which is 46% of the total funds disbursed till year 2017, but showing less number of beneficiaries that means still labourers are deprived of their payments.
- Ii is seen the amount of funds flow for Aanganwadi workers, teachers in aides colleges are just receiving 2% of the benefits.
- After the implementation of the PAHAL, 3.34 crore ghost beneficiaries were caught red handed.

- It was also seen that 5.2 crore LPG connections were made after linking of Aadhar with the bank accounts of people.
- From among the above schemes, the one that catches our attention is the PAHAL (PratyakshHanstantritLabh). It is the reform initiative for liquefied petroleum gas. It is the first ever programme in India that provide subsidies through direct benefit transfer. Till date, 150 million registered beneficiaries of such scheme, made it the world's largest direct benefit transfer programme. The reason behind the initiation of such scheme is to put a check on diversion of supplies and profiteering in the black market, thus creating a healthy market.

Conclusion and Suggestions

- The direct benefit transfer has been a of immense help to the growth of the economy as well as curbing corruption, reducing leakages, pilferage of funds, elimination of middlemen etc . It is a great step for financial inclusion but what about that section of the society who are still far away from the society, how will the benefit reach to them is a question. There are certain places in India where banking services cannot be reached, there postal services are at their service so the government can spread the facility of connecting the Aadhar with the postal accounts of various such people.
- The government can think towards the implementation of conditional cash transfer to ensure money is spent on specific desired purpose like nutrition, health etc.
- The Bolsia Familia scheme should be introduced where the cash benefit will be meant exclusively for female head of households. Such scheme was successfully implemented in Brazil.
- Most of the times, the beneficiaries are unaware of the benefits and services applicable for them, so there comes the responsibility of the government and respective agencies to spread awareness among the public especially the illiterate mass.
- Instead of increasing the number of schemesi.e410 schemes are in use, the authorities should strictly evaluate the timely progress of the existing schemes to ensure smooth conduct of the related agencies, agents, government offices etc.
- The need of the hour is to ensure exclusion of non-poor beneficiaries and ensure successful implementation of the direct benefit transfer schemes.

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Orissa Journal of Commerce, Volume XXXIX, January - 2019, Vol - 3, Pg - 28 - 33 *ISSN : 0974 -8482*

THE DISPROPORTIONATE BENEFITS OF FUEL SUBSIDIES IN INDIA

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ABSTRACT

The government of India provides energy subsidies for petroleum products including kerosene, diesel and LPG, etc. with an aim to improve energy access by making prices more affordable. The main objective of LPG subsidies is to provide it at lower rates across the country so that more households will increasingly shift from using the more polluting solid fuels to LPG. The outcome is that the country witnessed a considerable increase in domestic consumption and the phenomenal rise in the number of LPG connections is a testimony to it. However, the lack of LPG refills suggests that the schemes have not been able to impress the grass root level. Moreover, the fuel subsidies are a subsequent financial burden that has a significant negative impact on the Gross Domestic Product (GDP) of India indicating that the fuel pricing policy needs attention.

This paper attempts to present an exploratory analysis of the available schemes relating to liquefied petroleum gas and its effect on users. It also makes an effort to come up with suggestions for reforms in order to rationalize the subsidy mechanism to meet the energy needs of LPG users.

Key words : *energy needs, LPG, schemes, subsidy*

INTRODUCTION

Twenty first century has been an era of technology and innovation. Even India has seen tremendous growth and its economy is one of the fastest growing economies in the world. However, even today a larger section of people in the rural area are far off from all latest developments.

India is home to crores of people out of which a majority of rural households still don't have aceess to cleaner fuel and continue to rely on firewood, coal and cow dung cakes as primary fuel for cooking. It is not only harmful to health but also to the environment as it emits fumes which consists of harmful gases like carbon monoxide, sulphur dioxide, particulate matter, benzene and metals including lead and copper. It also causes aggravating acute and chronic diseases amongst the users.

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An obvious solution to this problem is the use of cleaner fuels for household cooking purposes. In order to tackle the issue, in the year 2016, the prime minister of India Shri Narendra Modi introduced Pradhan Mantri Ujjwala Yojna (PMUY) in order to promote the use Liquid Petroleum Gas (LPG) for cooking. LPG is a fossil fuel that is significantly clean and produces no soot.

India has become the second largest domestic LPG user after the introduction of the scheme. The government also provides subsidies for household cooking purposes in order to promote healthier form of cooking. When the prices of goods or services are controlled below its real market price by the government, the price is said to be subsidised. It is generally done to make an item affordable by the common people so that more and more people use a particular product or service and the objective of the government is achieved.

Relevance of the Study

In rural India, women and children have to slog in order to collect firewood for the purpose of cooking. According to World Health Organization report, the smoke emitted by traditional forms of cooking causes severe respiratory diseases and the smoke inhaled is equivalent to burning 400 cigarettes in an hour.

The main idea behind government's scheme 'Ujjwala' is that after getting a LPG connection, there would be no need for women and children to collect firewood or dung cakes and instead use their time more productively. The scheme also aims at improving the health conditions of women who still depend on traditional form of cooking. Thus the scheme is well targeted to address the crucial impediment of a high upfront cost, which has limited the transition towards LPG use in poorer households. While the move is appreciable, other challenges that limit the use of this clean fuel in India must be resolved simultaneously.

Review of Literature

1. Jahnabi Handique & Amalesh Bhowal (2017) studied the problems and prospects of LPG subsidy delivery to consumers who opted for the subsidy. A structured questionnaire was used to collect the data and data was analysed using statistical methods like SPSS to find whether respondents have received any benefits due to the LPG subsidy.
2. Karin Troncoso, Agnes Soares da Silva (2017) presented an exploratory analysis of the e?ects of subsidy policies for LPG in reducing USF in LAC countries when controlling for indicators of socioeconomic development and urbanization. In LAC, subsidies to LPG have substantially contributed to accelerate the transition from USF to clean fuels for cooking. Targeted subsidies should be considered as a policy option to implement the SDG7 on clean energy. Making clean energy accessible to all has the co-bene?ts of preventing diseases and premature deaths. Understanding the transition processes from USF to cleaner fuels made by LAC countries can better inform policy making in other regions.
3. Sangeeta V. Sharma and Vinod K. Sharma (2016) examined the socio-economically acceptable strategies that India should adopt for removing its liquefied petroleum gas (LPG) subsidies. It recognises that removal of this subsidy must be gradual and also socioeconomically acceptable to all stakeholders and consumers. This is not an easy task, and thus any reform or removal of the LPG subsidy must be done through policy that benefits poorer households.
4. Bipasha Das and Rajat Bhattacharjee (2016) studied the challenges pertaining to delay in subsidy transfer; information gaps and lack of financial inclusion remain. Addressing these concerns would be instrumental in improving the customer experience and outlook towards the scheme as well as the hassle-free enrollment of new customers and subsidy transfer for enrolled customers.

5. Venkatraja B. (2016) in his study concluded how increasing subsidies not only puts the nation in the debt trap but also stagnates the capability of the man power. Based on the outcome of the study, certain policy recommendations are made for fiscal discipline by rationalizing explicit subsidies. One of the prominent suggestions was to done away with subsidies to the maximum extent possible and target subsidies only to the financially weaker section of the economy and could be delivered directly to their bank accounts under Direct Benefit Scheme (DBS).
6. Coady D (2015) studied that a large share of benefits from subsidies goes to high income households further reinforcing existing income inequalities. The results also helped to estimate the welfare impact of subsidy reform for countries where the data necessary for such analysis is not available.
7. Dr. M. Dhanabhakyam & T. Sumathi (2014) depict that the customers has faced the irregularity of price increase and delayed supply of LPG gas cylinders. It is suggested that the HP gas company should take some necessary action to improve their service quality by the way they can introduce some more dealers and provide constant service to the customers.
8. Rahul Lahoti, Prodyumna Goutam, Suchitra J. Y. (KHAS) (2012) examined the patterns of use of Liquid Petroleum Gas (LPG), an important source of cooking fuel that is subsidized by the government of India. The main questions we answer are: what are the determinants of households' ability to avail of the LPG subsidies; and what can these trends tell us about changes that are necessary in the subsidy policy of the state?

Problem Statement

There has been a significant rise in LPG connections to household. But high usage cost and inefficient supply chains is the reason behind people not returning even after receiving a connection and refill cylinder free of cost. Therefore, people continue to use biomass for cooking purposes as cleaner fuels remain 'out of budget' for economically backward families. Government owned-oil ma

Government-owned oil marketing companies, namely, Indian Oil Corporation, Bharat Petroleum Corporation and Hindustan Petroleum Corporation, have been rapidly rolling out the government's plan to take clean fuel to more and more households, especially in the traditionally-disadvantaged eastern states. Chhattisgarh, Jharkhand, Bihar and Odisha are some of the states with least access to cooking gas. With just 30-40 per cent cooking gas coverage, these states are far behind Delhi, Punjab, Kerala and Goa, which have above 100 per cent coverage.

Initially, there was a system of misdirected subsidies as the rich and upper middle class were also entitled to LPG subsidies. The percentage of rural households that use firewood and chips for cooking, underlines the stark disparity between urban and rural India. There were many duplicate connections and the subsidized LPG was diverted towards commercial and industrial segments. Providing subsidies is also a huge burden to the economy. Also, with more and more people using LPG, it makes India one of the major importers of energy fuels.

Objectives of the Study

The main objectives behind the study are

- To find out the problems associated with using LPG as a primary cooking fuel.
- To study the impact of providing LPG subsidy on consumers and economy.
- To suggest measures in order to overcome the issues related to LPG subsidy.

The Use of LPG – Pros & Cons

The government provided 32.6 million LPG connections under the Pradhan Mantri Ujjwala Yojana (PMUY) scheme since the launch of the scheme in May 2016. About two-third of these connections were given to poor

families, as part of the government's drive to shut hazardous smoke from the kitchens of those who had not yet had access to clean cooking fuel.The number of gas connections added in 2016-17 is 78.5 per cent higher than that added in the preceding year (17.7 million connections). Government targets to add 100 million connections between April 2016-March 2019 and out of this, over 30 per cent are already achieved.

However, it has an adverse impact on the economy in the form of huge fiscal burden. In order to reduce the LPG subsidy burden on the fiscal budget, the Government of India has introduced many ameliorative measures, initially it sought to defray the cost by persuading the middle class and the rich families with access to subsidised gas cylinders to give up the subsidy under another scheme called 'Give it Up' and the petroleum ministry reports that over 1 crore have given it up so far, who are from presumably middle to high income households who do not need the subsidy. Further, households with taxable income over Rs. 10 lakh per annum have been excluded from the LPG subsidy. It has also fixed the number of annual subsidized LPG cylinders per household, providing direct beneficiary cash transfers.

According to the Petroleum Minister, Shri Dharmendra Pradhan, reforms in subsidy mechanism- elimination of ghost consumers and direct subsidy transfer to bank accounts saved an estimated Rs. 21 crores in three years of Modi government. During this period, Rs. 40,000 crore in subsidy has been directly transferred to bank accounts of consumers. To further reduce the petroleum subsidy burden, on 31st July, 2017, the Petroleum Minister has announced the increase in LPG prices until the subsidy on it is completely eliminated, or unil March 2018, whichever comes earlier. This will potentially delink the government budget with crude prices.

While this move will have a positive impact on the government budget, it is likely to have a detrimental impact on the transition to modern fuels in rural India and on the health of citizens. After all, what has not changed is rural India's reliance on biomass for cooking. The poor continue to use it and suffer from the air pollution caused by it. Apart from the impact on human health and therefore the economy, what has also not hanged is the affordability of LPG. This is in particular of great concern at this juncture as there have been reports of significant job losses in the aftermath of demonetization, particularly in rural areas. The remval of LPG subsidy, therefore comes at a precarious time. The subsidy was an investment into public health in many ways. The concern is that, this will impact the marginal households and keep many households trapped in biomass use for daily cooking, which has no place in Indian economy.

Suggestions

An analysis by CEEW suggests that households that buy some or all of their biomass end up paying more than those who rely on LPG. Thus, LPG would be an economically attractive proposition for rural households. However, those relying completely on free-of-cost biomass would possibly opt for a subsidized connection, but would not spend on refilling cylinders regularly. Thus focus should be made on reducing the gap between adoption and sustained use. Thus, a threefold approach is needed.

- First, creating awareness about the actual cost of fuel and its benefits, especially those related to health, over status quo.
- Secondly, tackling the issue of cash flow, especially for the strata of population who find it difficult to pay for the aggregated cost of refilling a large cylinder. Introducing smaller LPG cylinders (2-5kg) for this section could be a solution.
- Third, leveraging mobile money for LPG payments. As LPG coverage expands in rural areas, the Direct Benefits Transfer of LPG (DBTL) subsidy programme could create additional barriers for economically weaker households. These could be in the form of no bank account or the distance the person travels to

have access to banking services. While the Pradhan Mantri Jan Dhan Yojna has increased the number of rural households with bank accounts, innovative payment approaches is needed to fill the gap of last mile to access banking services.

Limited LPG distribution networks in rural areas also need simultaneous attention to cover fiver crore households by 2019. The government and oil marketing companies have already established at least one LPG distributor in each block. Most rural areas are served under Rajiv Gandhi Gramin LPG Vitaran Yojana (RGGLVY). Here, the consumer has to collect the cylinder from a dealer. Such consumers typically travel 3-10 kms. Innovation is required in distributing LPG in the rural areas, beyond the traditional realm of a dealership model. Leveraging rural supply chains, only for the delivery of the regulated commodity, could be one such approach.

Finally, the third major barrier is awareness and administrative issues. About 40 percent of LPG deprived households in rural areas cite a lack of information about the process of getting a connection as a challenge. Therefore, awareness creation in rural areas and among the urban poor is a must. For households in urban slums, the absence of residential proof or lack of interest by urban dealers to serve them also pose a barrier. The government's scheme of selling 5 kg cylinders at petrol pumps and kirana stores may help, as proof of address is not required. However, its limited penetration and retail pricing still make it challenging for many poor households. Opening exclusive dealerships for smaller cylinders with specific provisions to serve urban poor areas, could help overcome some of these challenges.

It is welcome that the government has recognised the importance of clean cooking energy with the launch of tis mammoth scheme. However, it is needed to go beyond subsidizing connections and fuel costs and focus on issues of cash flow, awareness, availability and administration. Only such a comprehensive approach will help poor households to have a better life.

Conclusion

India has become the second largest domestic LPG consumer in the world due to BJP government's rapid roll out of cleaner fuel plan for poor households and fuel subsidy reforms. LPG consumption by households has gone up by more than nineteen million tonne and is expected to rise twenty million tonne by 2020 due to the rapid rollout of 'Ujjwala' scheme. The 'Ujjwala' scheme has turned India into an example for energy experts where other economies are still struggling to provide clean fuel to their rural folks. Barely 2 years, the scheme has covered more than 1.75 crore poor households and has registered an annual growth of 10 percent. It is expected to provide free LPG connections to five crore poor people by 2019. The scheme has turned India into an example for energy expert whereas other emerging economies are still struggling to provide clean fuel to their rural people.

The 'Ujjwala' scheme is remarkable for two main reasons; firstly, it has brought focus to the important developmental issue of enabling clean cooking energy. Second, the scheme improves the quality of life of rural women whose health interests are usually neglected due to household priorities. Therefore India aims to replace unclean cooking fuels with the clean and more efficient LPG and thus contribute to making our country a cleaner and greener place to stay.

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Orissa Journal of Commerce, Volume XXXIX, January - 2019, Vol - 3, Pg - 34 - 42 *ISSN : 0974 -8482*

JAM : A GAME CHANGING REFORM IN SUBSIDY MANAGEMENT SYSTEM IN INDIA

**** Sugyani Rath***

ABSTRACT

A subsidy, defined in its simplest form, is the amount of money used to keep market prices artificially low. When price of goods or services are controlled below its real market price by government the price is said to be subsidized. Government subsidizes an item to make it affordable for poor or common men. A subsidy literally implies coming to assistance from behind. However, their beneficial potential is at its best when they are transparent, well targeted, and suitably designed for practical implementation. For this to happen efficiently there are three separate but related issues which need to resolve as prerequisite. One is medium of transfer ,second is identification of beneficiaries & lastly Beneficiaries must be able to access their money. The JAM trinity is a means this end. This JAM Trinity - Jan Dhan, Aadhar and Mobile is a "game changing reform" which enable to transfer of benefits in a leakage-proof, well-targeted and cashless manner. This paper provides an insight view of effective subsidy management system through technological intervention. The study is based on secondary data. From the initial implementation of the scheme , it is possible to envisage that ,it could help as an effective tool to cut subsidy leakages with numerable benefits to helping the lives of the poor in our country.

Key Words : *Subsidy Management, JAM Trinity, Government.*

INTRODUCTION

Subsidies are one of the quintessential attributes of any welfare state. India, at the eve of independence was left with uphill task of socio-economic development. Markets were almost nonexistence, masses lived in abject poverty and illiteracy, we were not producing enough food to satiate hunger of masses, life expectancy was just 32 years; in short, there was crisis in every sphere; be it agriculture, industry, health or education; partly due to colonial legacy. Given such circumstances, founding fathers of democratic India rightly arbitrate through government subsidies by subsidizing on item to make it affordable for poor or common men . However, 70 years down the line only few problems have abated, while new ones cropped up and poverty still stubbornly remains

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a pressing problem. In this context, latest economic survey rightly points out that despite spending as high as 3.77 lakh crore rupees annually on subsidies there is no 'transformational impact' on standard of living of masses. While subsidies have helped some poor people to do firefighting in life, main allegation on a subsidy economy is that, through subsidies, money meant for poorest is appropriated by richer sections of the society due to mistargeting and leakages. As a concept subsidies are not bad. But it should benefit the needy. If we subsidize Diesel, Kerosene, LPG then the benefit should be felt by the poor. People who can afford shall pay the market price. People who cannot afford shall get subsidies. According to the Indian Economic Survey, 3.78 trillion rupees (or 4.2% of India's GDP) was projected to be spent on government subsidies in 2014-2015. The Government administration has stated their intention to decrease the percentage of GDP spent on subsidies to 1.6% of total GDP by 2017-2018.

How do they plan to do this without leaving the poorest Indian citizens without a lifeline ? The intention is to cut out the loopholes and middlemen that currently divert resources, like the black market for LPG cylinders, by integrating technology and welfare together. As, subsidies are needed for the poor. What we need is a well-targeted system of subsidy delivery. We need to cut subsidy leakages, not subsidies themselves. The JAM Trinity - Jan Dhan, Aadhar and Mobile is a "game changing reform" which mean to transfer of benefits in a leakage-proof, well-targeted and cashless manner, which will help the Government stop leakages, while continuing with subsidies. JAM is an acronym which stands for Jan Dhan Yojna, ADHAAR and Mobile number. It is seen as the biggest reform regarding direct subsidy transfer in terms of cash.

Cash transfers can directly improve the economic lives of India's poor, and raise economic efficiency by reducing leakages and market distortions. Implementing direct benefit transfers (DBT) at large-scale and in real-time remains one of the government's key objectives, and significant progress has been made in the past year. Last year's Economic Survey explained how the JAM Trinity Jan Dhan, Aadhaar, Mobile can help government implement DBTs.

Objective of the Study

Keeping the above background, the paper attempts to study the following objectives:

1. To have an insight view of subsidy Management before & after introduction of JAM.
2. To know the status of implementation ,trends in coverage of JAM.
3. To highlight the success of MGNRGES using JAM.

Methodology

The present paper is descriptive in nature and basically cover secondary source of data. The information presented in this paper have been collected from various newspaper writings, journals, web sites of different research institutes and ministries.

Subsidy Management before and after Introduction of JAM

Before Introduction of JAM

To understand the current state of subsidies in India, let's take a quick dive into the past. The history of India's subsidized commodity distribution is rooted in universal coverage for all citizens. Beginning before independence, the British rationed grains during World War II. After independence, as part of the planned economic development beginning in 1951, the Central Government's Public Distribution System (PDS) began to distribute six daily commodities (rice, wheat, sugar, edible oil, a form of coal, and kerosene oil) to Indians countrywide, regardless of income. At the time, subsidies of household commodities were viewed as necessary to counter the high cost of food after World War II and provide a modicum of food security.

Today, the ration card is still a common fixture in the life of urban and rural Indians. There are three levels of ration cards - the AAY, BPL, and the APL cards. Antyodaya cards (expanded to the Antyodaya Anna Yojna or AAY), covers families with monthly incomes of less than Rs. 250 per month, as well as senior citizens, widows, the terminally ill, and physically handicapped with little or no regular income. Qualification for BPL (Below the Poverty Line) ration cards is determined by not falling into one of the 15 determining categories, ranging from owning a two wheeler with a 100CC capacity or above (note that BPL families are allowed to own up to one auto-rickshaw) to serving as a government employee. The holder of a BPL can access the benefits of the 2013 food security bill: 5 kg of subsidized rice, wheat, and coarse grains a month, among other things. Finally, an APL card (Above the Poverty Line) allows holders to receive their rice and wheat shares only after the BPL/ AAY families have received theirs at a subsidized rate.

However, even with the three-tier ration card system, leakages and distortions across the subsidy system still result in wasted government resources. As highlighted in the 2014-2015 India Budget Report, the wastages in the current subsidy system are often regressive to the point of benefiting rich households more than poor households. Take water subsidies for example. It is estimated that up to 85% of government water subsidies go to private taps, yet 60% of poor households collect water from public taps. Or electricity subsidies — 67.2 % of Indian households are connected to the electric grid, most likely representing some of the wealthiest households in the country. Out of the population with connectivity to the electric grid, the top income quintile consumes 121 kWh per month on average (37% of the subsidy) while the bottom quintile consumes only 45 kWh on average (10% of the electricity subsidy).

Furthermore, in the majority of commodity markets discussed in the 2014-2015 financial report, leakages are rampant. Holes are everywhere, with commodities typically disappearing into the pockets of middlemen and later ending up on the black market. The percentage of commodities that disappear can range from 54% (wheat) to 15% (rice) of all government-subsidized products.

After Introduction of Cash Transfers and JAM

At the end of the 2014-2015 fiscal year, the Finance Department introduced the JAM Trinity, an expanded version of a direct transfer program rolled out in 2013. Suppose the Government wanted to transfer Rs.1000 to every Indian tomorrow. What would that require?

1. Government must be able to identify beneficiaries;
2. Government must be able to transfer money to beneficiaries;
3. Beneficiaries must be able to easily access their money.

Failure on (1) leads to inclusion errors and leakage – benefits intended for the poor flow to rich and "ghost" households, resulting in fiscal loss. Failure on (2) and (3) leads to exclusion errors – genuine beneficiaries being unable to avail benefits. The government must be especially sensitive to exclusion errors, which typically hurt the poorest and can be invoked as reason and highlighted by leakage beneficiaries to roll back DBT schemes1. We now discuss the 3 requirements for JAM in turn. The JAM Trinity is a Hindi acronym for a three-tiered identification system aimed at increasing the poor's access to benefits while closing up leaking subsidy pipes. It combines the Jan Dhan Yojana (the central scheme to promote financial inclusion, largely through the opening of bank accounts), Aadhaar cards (the 12-number ID cards based on biometric data), and mobile numbers in an attempt to increase the feasibility of direct transfers to India's poor.

* *Sugyani Rath*

Status of Implementation & Trends in coverage of JAM

PRADHAN MANTRI JAN DHAN YOJANA

- The Pradhan Mantri Jan Dhan Yojana (PMJDY) – a national mission for financial inclusion – was launched on 28 August, 2014. The scheme's main objective is to further financial inclusion by providing all households in the country with at least one bank account.

Coverage

- In 2015, 9.4 crore accounts were opened, averaging nearly 2.6 lakh accounts per day. In 2016, as of 28 December, 26 crore Jan Dhan accounts have been opened across the country – a rate of 2.2 lakh new accounts daily since 31 December, 2014.
- Jan Dhan accounts form a significant proportion of the overall bank accounts in the country. As of March 2015, 10 per cent of all deposit accounts had been opened under PMJDY. By 11 January, 2017, the scheme covered 107 per cent of all households as per Census 2011. There are sharp state-wise variations. States that had low coverage of bank accounts prior to the launch of PMJDY have seen a higher number of Jan Dhan accounts being opened.
- For instance, Chhattisgarh and Assam had about 60 per cent coverage of bank accounts before the scheme was launched. However, as of 11 January, 2017, the number of Jan Dhan accounts stood at 200 per cent of households in Chhattisgarh and 166 per cent of households in Assam, as per Census 2011. This suggests that many households had more than one adult member open an account under PMJDY.
- In contrast, coverage of Jan Dhan accounts was low in Kerala and Tamil Nadu where 90 per cent and 77 per cent of households, respectively, already had a bank account prior to the launch of the scheme. Till 11 January, 2017, only 41 per cent of households in Kerala and 46 per cent in Tamil Nadu had a Jan Dhan account.

Source: Jan Dhan Portal, Archives, GOI . Available online at: http://pmjdy.gov.in/Archive. Last accessed on 20 January, 2017.

Usage

- As of October 2016, the total balance available in Jan Dhan bank accounts stood at `44,867 crore.
- The proportion of Jan Dhan accounts with no balance has been steadily declining, from 77 per cent at the scheme's inception to only 23 per cent as of October 2016 (before demonetisation). A primary objective of PMJDY is to enable citizens to perform financial transactions in the formal banking system. One way of measuring this is to analyse the average balance in active accounts. This reduced from `3,428 in September 2014 to `2,315 in October 2016 – a drop of 32%.

AADHAAR

→ Aadhaar is a 12-digit unique identifying number assigned to individuals. Every resident of India is eligible for one. Aadhaar was launched as a scheme in November 2012. The system is now administered by the Unique Identification Authority of India (UIDAI), a statutory body established by the Aadhaar Act of 2016. The objectives of the project include:

- Universal provision of Aadhaar to residents of India
- Integration with existing databases to enable unique identification and authentication of Aadhaar holders
- Provision of a secure and low cost platform to directly remit benefits to residents

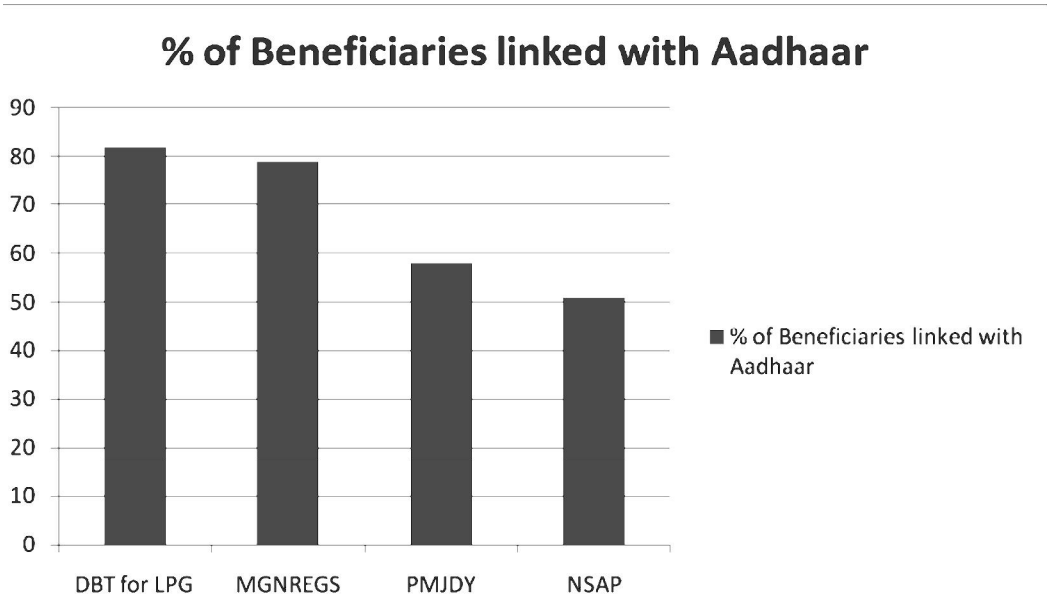
→ Aadhaar enables unique identification of citizens. This allows DBT payments to a citizen's Jan Dhan account solely on the basis of his or her Aadhar number. In addition, biometric authentication offers a replacement for ATM cards, as citizens can withdraw money from micro-ATMs with their thumb print alone.

Coverage

- As of 2 January, 2017, 88 per cent of the population of India (as per Census 2011) held Aadhaar numbers. This was an increase from 80 per cent as of 2 January, 2016. There were, however, large regional variations in coverage.

Seeding

- The process of linking a database of individuals to their Aadhaar numbers is known as 'seeding'. Government schemes using DBT report a steady increase in the proportion of beneficiaries linked to their Aadhaar numbers, from 57 per cent in December 2015 to 78 per cent as of December 2016.
- LPG subsidies and MGNREGS reported the highest proportions of beneficiaries seeded, at 82 per cent and 79 per cent, respectively. However, Aadhaar seeding was lower in NSAP, with only 51 per cent beneficiaries seeded. Similarly, only 58 per cent of Jan Dhan accounts had been linked to an Aadhaar number.



Source: UIDAI Public Data Portal. Available online at: https://data.uidai.gov.in/uiddatacatalog/data Catalog Home.do. Last accessed on 20 January, 2017.

Usage

- There are two main channels of Aadhaar usage: a) Aadhaar Payment Bridge (APB) and b) Aadhaar Enabled Payment Services (AEPS). Whilst the APB allows government agencies to transfer funds to citizens using their Aadhaar number alone such as for DBT, the AEPS allows for biometric authentication of trans actions. For example, AEPS is used by micro- ATMs for banking services and point-of-sale machines for electronic Public Distribution Systems (PDS).

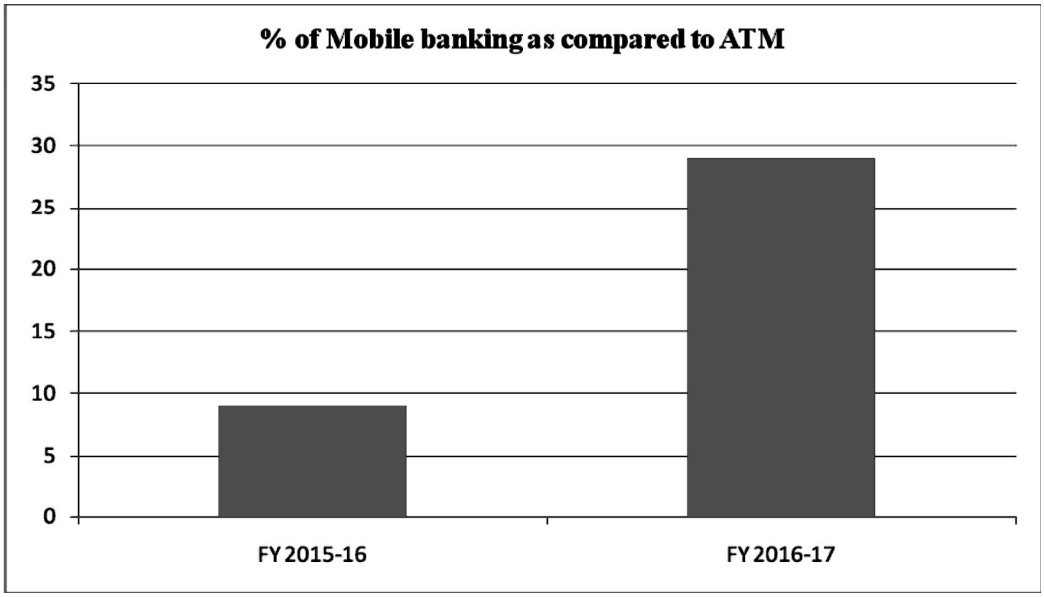
- Of the total funds transferred cumulatively through DBT in FY 2016-17 till December 2016, 30 per cent was transferred through APB – a marginal increase from 27 per cent in FY 2015-16.
- A scheme-wise break-up reveals that 71 per cent of DBT funds for LPG subsidies used APB in FY 201617 till December. In contrast, only 22 per cent of DBT funds in MGNREGS and 20 per cent in NSAP used APB in the same period.
- AEPS requests for micro-ATM usage stood at 95 million transactions in FY 2015-16. The number of transactions from April to December 2016 increased sharply to 203 million, a growth of 115 per cent in just three quarters of the financial year.

MOBILE

- Mobile technology holds the potential of giving a large number of Indians access to banking services. According to the Economic Survey 2015-16, in order to enable citizens to access their DBT, there is a need to strengthen the link between banks and beneficiaries. It accordingly called for greater use of mobile payments technology to leverage India's deep mobile penetration.

Coverage

- Coverage of mobiles can be measured by per-capita number of wireless subscriptions, also called as tele-density. Tele-density stood at 82 per cent for India in September 2016.
- However, there were sharp state-wise variations. The relatively prosperous regions of Punjab, Tamil Nadu, Himachal Pradesh and Delhi had a tele-density exceeding 100 per cent. In contrast, tele-density was low in Bihar and Jharkhand at 55 per cent, and in Uttar Pradesh and Uttarakhand at 66 per cent.
- When rural areas alone are considered, tele-density is sharply lower. The all-India rural tele-density was 51 per cent as of September 2016. Corresponding figures for Bihar, Madhya Pradesh and Uttar Pradesh stood at 36 per cent, 39 per cent and 42 per cent, respectively.



Source: RBI Monthly Bulletin, Payment System Indicators. Available online at: https://www.rbi.org.in/Scripts/BS_ViewBulletin.aspx. Last accessed on 20 January, 2017.

Usage

- A total of 68 crore mobile transactions were reported between January-November 2016, a sharp 152 per cent increase over the corresponding period in 2015. On average, transactions in 2016 till October were worth Rs. 12,680. This was 41 per cent more than in 2015.
- Mobile requests for transfer of funds between banks accounted for 10 per cent of overall retail fund transfer requests in FY 2016-17 up to November, compared to 7 per cent in FY 2015-16. During the same period, mobile banking as a proportion of the value of funds transferred between banks increased from 1.8 per cent to 2.8 per cent.
- Mobile banking is meant to provide citizens an alternative means of accessing financial services. ATM usage is a useful comparison to assess the growth of mobile transactions. The value of mobile transactions stood at 29 per cent of ATM usage in FY 2016-17 up to November, up from 9 per cent in FY 2015-16.

Success of MGNREGS using JAM

The MGNREGA was initiated with the objective of "enhancing livelihood security in rural areas by providing at least 100 days of guaranteed wage employment in a financial year, to every household whose adult members volunteer to do unskilled manual work".[7] Another aim of MGNREGA is to create durable assets (such as roads, canals, ponds, wells). Employment is to be provided within 5 km of an applicant's residence, and minimum wages are to be paid. If work is not provided within 15 days of applying, applicants are entitled to an unemployment allowance. Thus, employment under MGNREGA is a legal entitlement.

Poor households rely on government subsidies to buy certain commodities. In the same way, state and local governments rely on central transfers to fund key programs, businesses working with government rely on timely payment to manage cash flow, and government employees rely on government transfers for their salaries. All receive funds from the same Sarkari financial pipe that delivers subsidies – and which JAM can improve by reducing delays, leakages, and administrative burden.

Figure : MGNREGS fund flow systems: old vs. new

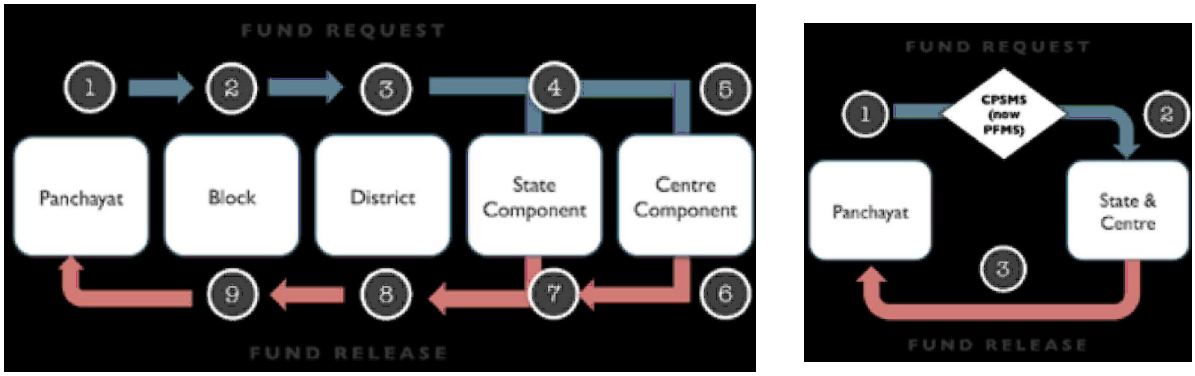


Table: Conceptual Differences in Fund Flow Systems

Characteristic	Old system	New system	Effect
When are funds allocated ?	Before spending occurs, based on forecasts	When spending occurs, in real-time	Reduced float (26%)
How do funds flow ?	Level by level: Centre → State → District → Block → Panchayat;	Directly from fund pool to spender: Centre/State → Panchayat	Reduced payment delays and uncertainty
When does expenditure documentation occur ?	Aggregated and ex-post: For multiple beneficiaries at a time, and after funds have been disbursed.	Individually and in real-time: For every individual beneficiary's payment and in order to secure fund release.	Reduced leakages (14%) and funds disbursed by 38%

The old MGNREGS system (and the current system for most schemes) has 4 major problems:

1. **Float:** idle funds accrue interest costs for the central government since this is borrowed money. Outside of MGNREGS, the estimated stock of unspent balances in government accounts is at least Rs 1 lakh crore and leads to an annual cost of Rs 8500 crore. The new system keeps funds in a central pool and only disburses expenditure in real-time, reducing float by 26 per cent.
2. **Leakages:** funds had to pass through multiple layers, meaning more people can demand a cut to secure the release of funds. Accounting happens ex-post and in aggregate, making monitoring difficult. The new system reduced leakages by 14 per cent and fund disbursal by 38 per cent even though a household survey showed no change in the amount of work done in MGNREGS.
3. **Misallocation:** funds, once disbursed, usually do not return, so forecast errors lead to misallocation of fiscal resources, with idle funds in some accounts and shortages in others. This leads to scheme shortages for beneficiaries in some panchayats, even if a neighbouring panchayat has available but unused funds.
4. **Resource-intensity:** scheme managers spend valuable time haggling with officials at higher administrative units, who often demand arbitrary documentation to release funds. Similarly, businesses must haggle with programme managers and face arbitrary requirements to receive payments. The reform has eased the burdens in doing business with the government, both internally and for vendors.

MGNREGS is one of the government's largest schemes, and forms 41 per cent of DBT expenditure. Through fund management reforms, it is overcoming these challenges. Similar gains are possible from adopting these reforms for all government payments, including other central and state schemes that still use the old model.

Conclusion

Considerable work needs to be done to fully implement the game-changing JAM agenda. In those areas where the centre has less control, it should incentivise the states to invest in first mile capacity (by improving beneficiary databases), deal with middle-middle challenges (by designing incentives for supply chain interest groups to support DBT) and improve last-mile financial connectivity (by developing the BC and mobile money space). To this end, states should be incentivised by sharing fiscal savings from DBT. Meanwhile, the centre should prioritise areas where it has the highest control over the first- and middle-mile factors and leakages are high. Fertiliser and within-government transfers stand out as good candidates. The example of MGNREGS highlights that delivering within-government transfers via JAM can help other centrally sponsored schemes reduce idle funds, lower corruption and improve the ease of doing business with government.

If the JAM Number Trinity can be seamlessly linked, and all subsidies rolled into one or a few monthly transfers, real progress in terms of direct income support to the poor may finally be possible. The heady prospect for the Indian economy is that, with strong investments in state capacity, that Nirvana today seems within reach. It will be a Nirvana for two reasons: the poor will be protected and provided for; and many prices in India will be liberated to perform their role of efficiently allocating resources in the economy and boosting long run growth. Even as it focuses on second generation and third generation reforms in factor markets, India will then be able to complete the basic first generation of economic reforms.

Thus it is possible to envisage that , The JAM Trinity - Jan Dhan, Aadhar and Mobile - is a "game changing reform ,which could help as an effective tool to cut subsidy leakages with numerable benefits to helping the lives of the poor in our country.

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Orissa Journal of Commerce, Volume XXXIX, January - 2019, Vol - 3, Pg - 43 -48 *ISSN : 0974 -8482*

ROLE OF SUBSIDIES IN INDIAN AGRICULTURE SECTOR

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ABSTRACT

The agriculture subsidies are integral part of the farmers in India. The agriculture subsidies play vital role in agriculture sector in every county. Every year Government of India spends lot of money in various agriculture subsidies for growth of agriculture sector but how much they are beneficial to agriculture sector is a question. The objective of this study is to find out the different schemes by government and the subsidy budget. The paper concludes that agriculture subsidies are distributed by every country but its percentage is very low as compare to other country and in some cases the subsidy provided by government have negative impact on the performance of the farmers.

Key words : *Agriculture, Subsidies, role & Factors*

INTRODUCTION

An agricultural subsidy is a governmental subsidy paid to farmers and agribusinesses to supplement their income, manage the supply of agricultural commodities, and influence the cost and supply of such commodities. Examples of such commodities include: wheat, feed grains (grain used as fodder, such as maize or corn, sorghum, barley and oats), cotton, milk, rice, peanuts, sugar, tobacco, oilseeds such as soybeans and meat products such as beef, pork, and lamb and mutton.

Indian Government plays a vital role in the development of agriculture sector. Indian agriculture sector is contributing around 17% towards GDP. More than twenty years, every county gives big percent of subsidies to the agriculture sector for the development of agriculture sector but now every country tries to reduce the level of agriculture subsidies for reduce the burden on economy. There are different views of economics, expert & governments regarding impact of agriculture subsidies on the economy. Economist said it is harmful to the economy but as per the agriculturalist it is needed for the growth of agriculture sector.

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LITERATURE REVIEW

- Gajendra presented his view in article Domestic subsidies, the agriculture subsidies can be broadly discussed under two categories one is export subsidy & another is domestic subsidy, he also focused on following issues -Subsidies proper in the developed country and subsidy impact on the Indian economy. The growing volume of subsidies particularly the ? Green Box subsidies are the new excuse instruments of the developed countries for projecting a pro-poor image.
- Weilong presents his views in Case Study: Agricultural Subsidies and Development- The paradox of agricultural subsidies, MGMT 6350, International Business February 11, 2005.

STATEMENT OF PROBLEM

"What is role of subsidies on agriculture sector with help of previous research, government reports, articles etc. The question is how we can measure the impact".

OBJECTIVES OF THE STUDY

The objectives of the study are:

- To study the agricultural sector in India.
- To know the different types of government subsidies for agriculture.
- To find out the allocation of fund for agriculture sector in India in the year 2015-16.

RESEARCH METHODOLOGY

The study is based on secondary data which is collected from the government website, published reports, Census Surveys, newspapers, journals, websites etc.

AGRICULTURE SUBSIDIES

Payments by the federal government to producers of agricultural products for the purpose of stabilizing food prices, ensuring plentiful food production, guaranteeing farmers' basic incomes, and generally strengthening the agricultural segment of the national economy.

Proponents of agriculture subsidies point to several reasons why they are necessary. They claim that the country's food supply is too critical to the nation's well-being to be governed by uncontrolled market forces. They also contend that in order to keep a steady food supply, farmers' incomes must be somewhat stable, or many farms would go out of business during difficult economic times. These premises are not accepted by all lawmakers and are the subject of continual debate. Critics argue that the subsidies are exceedingly expensive and do not achieve the desired market stability

DIFFERENT KINDS OF AGRICULTURAL SUBSIDIES PROVIDED TO FARMERS IN INDIA

(1) Input Subsidies: Subsidies can be granted through distribution of inputs at prices that are less than the standard market price for these inputs. The magnitude of subsidies will therefore be equal to the difference between the two prices for per unit of input distributed. Naturally several varieties of subsidies can be named in this category.

(a) Fertilizer Subsidy: The fertilizer subsidies are borne by the Central Government. The need for the fertilizer subsidy arises from the nature of fertilizer pricing policy of the government. The objective of this subsidy was making fertilizer available to farmers at a low and affordable price to encourage their use and increase production.

(b) Irrigation Subsidy: It is the subsidy provided on the usage of government provided canal water. Irrigation subsidy is the difference between operating and maintenance cost of irrigation infrastructure in the state and irrigation charges recovered from farmers. This may work through provisions of public goods such as canals, dams which the government constructs and charges low prices or no prices at all for their use from the farmers.

(c) Power Subsidy: The electricity subsidies imply that the government charges low rates for the electricity supplied to the farmers. Power is primarily used by the farmers for irrigation purposes. It is the difference between the cost of generating and distributing electricity to farmers and price received from farmers.

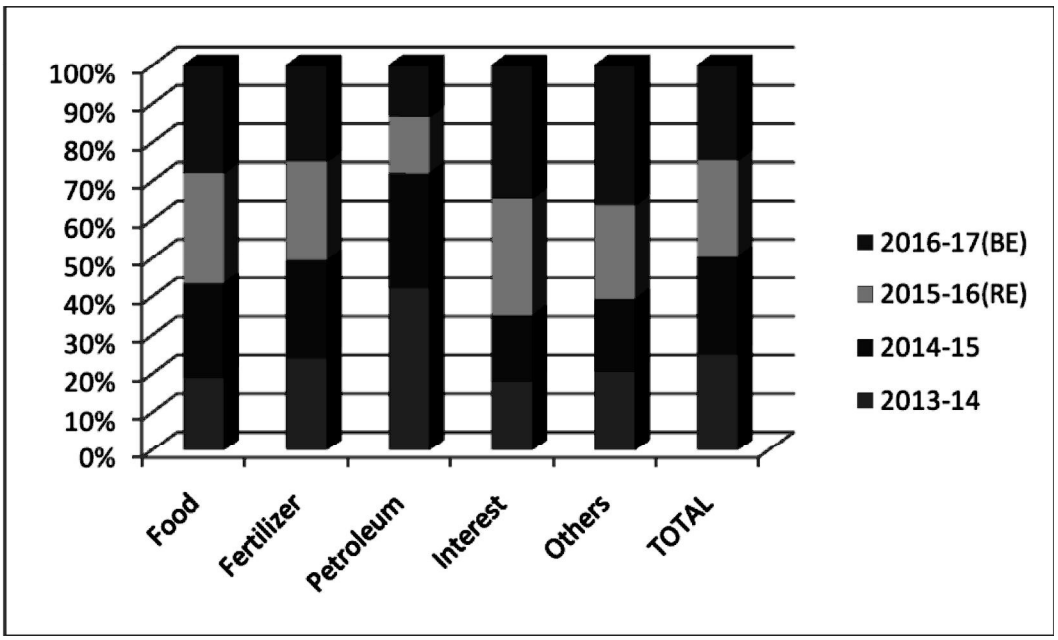
(d) Seed Subsidies: Seed subsidy is granted through the distribution of quality seeds at a price that is less than the market price of the seeds.

(e) Credit Subsidy: It is the difference between interest charged from farmers, and actual cost of providing credit, plus other costs such as write-offs bad loans. Availability of credit is a major problem for poor farmers. They are cash strapped and cannot approach the credit market because they do not have the collateral needed for loans.

TABLE NO. - 1 THE CENTRE'S SUBSIDY BILL

	2013-14	2014-15	2015-16(RE)	2016-17(BE)
Food	92000.00	117671.16	139419.00	134834.61
Fertilizer	67338.77	71075.62	72437.58	70000.00
Petroleum	85378.16	60268.82	30000.00	26947.00
Interest	8137.19	7632.28	13808.27	15523.29
Others	1777.72	1610.01	2136.32	3128.03
TOTAL	254631.84	258257.89	257801.17	250432.93

(Figure in rs crores: BE: budget estimates; RE: revised estimates)

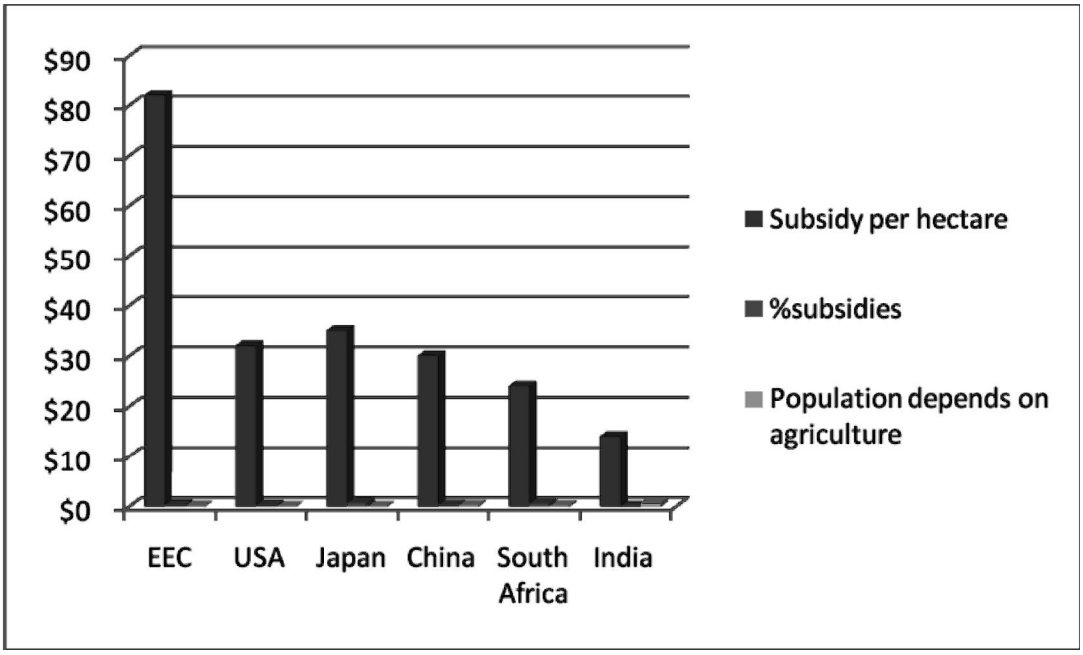


COMPARISON OF DEVELOPING & DEVELOPED COUNTRIES REGARDING SUBSIDIES TO AGRICULTURE SECTOR

Table no.-2 Comparison of developing & developed country regarding Subsidies to Agriculture Country

Country	Subsidy per hectare	%subsidies	Population depends on agriculture
EEC	$82	37%	8%
USA	$32	26%	5%
Japan	$35	72%	4%
China	$30	34%	24%
South Africa	$24	60.67%	18%
India	$14	2.33%	70%

Source - *Compilations from WTO reports*



The above table shows agriculture subsidies is global phenomenon and it percent is more in developed country and less in developing country. In European countries its percentage is more than India. The dependant on agriculture sector more in developing countries & less in developed countries

PLAN SCHEMES AND OUTLAYS FOR 2015-16

The outlay on different schemes in the Agriculture sector under State Plan, Central Plan and Centrally Sponsored Plan Schemes are indicated below.

A. STATE PLAN SCHEMES

The following Plan Schemes will be implemented during the year 2015-16 for which an outlay of ` 257826.92 lakh has been provided including State & Central Share of CSP schemes.

AGRICULTURE SECTOR

A.1. Input Subsidy in seeds, fertilizers, bio-fertilizers etc. (6200.00 lakh)

Seed is one of the most important inputs that play a key role in enhancing agricultural productivity. With a view to increase the Seed Replacement Rate (SRR) to desired level, State Government has been providing subsidy on distribution of quality seeds. State Government has also been providing need based subsidy on other inputs such as seeds, pesticides, bio-fertilizer, etc. . A sum of ` 6200.00 lakh has been provided for 2015-16 for the purpose.

A.2. Subsidy under State Agriculture Policy (2500.00 lakh)

For creation of indirect employment opportunities and to provide self employment among the educated mass, subsidy is being provided for establishment of Commercial agri-enterprises under State Agriculture Policy 2013. A sum of ` 2500.00 lakh has been provided for release of subsidy during 2015-16.

A.3. Popularization of Agriculture Implements (24000.00 lakh)

Including manual & bullock drawn and diesel pump sets agriculture implements / equipments help the farmers to take up timely agricultural operation. It also reduces the drudgery in agriculture operations. In order to popularize agriculture implements / equipments, an amount of 24000.00lakh have been utilized as subsidy during 2015-16.

A.4. Promotion of System of Rice Intensification (SRI) (1000.00 lakh)

System of Rice Intensification (SRI) is a technology which requires less of inputs such as seeds, water etc. It has been programmed to take up seed treatment campaign in 4.71 lakh hectares and line sowing and line transplanting over 1.036 lakh Ha. with a provision of 2249.98 lakh under the programmed during 2015-16.

A.5. Promotion of Integrated Farming (100.00 lakh)

This Scheme is being implemented to demonstrate and popularize Integrated Farming in the State. A sum of `100.00 lakh has been proposed for 2015-16 to promote 100 nos. of Integrated Farming in the State.

A.6. Technology Mission on Sugarcane Development (200.00 lakh)

In order to utilize the full crushing capacity of the sugar mills available in the State and to increase the production and productivity of sugarcane crop, various interventions such as Sustainable Sugarcane Initiative, Ration management demonstration, Subsidy on weedicides, Assistance on production of sugarcane seedlings, Replacement of sugarcane varieties in non-sugar factory area etc. are being taken up under the scheme Technology Mission on Sugarcane Development since 2011-12. During 2015-16, such interventions are being taken up with the ?nancial involvement of ` 200.00 lakh.

A.7. Technology Mission on Oilseeds & Pulses (0.01 lakh)

The Scheme is being implemented from 2013-14. A token provision of ` 0.01 lakh has been proposed for 2015-16for continuation of the scheme.

A.8. Technology Mission on Jute & Mesta (0.01 lakh)

This Scheme is being implemented from 2013-14. A token provision of ` 0.01 lakh has been proposed for 2015-16 for continuation of the scheme.

A.9. Organic Farming (365.99 lakh)

It has been proposed to encourage organic farming in the State by bearing the cost of certification under the scheme organic farming since 2013-14. Each farmer can register up to 4 Ha of land under organic cultivation free of cost.

FINDINGS

- Due to corruption & ineffective management of subsidies in India, it has not reach to end users i.e. farmers& another side due to illiteracy of farmer regarding agriculture subsidies, he can't take benefit in farming & faced financial crisis. If these two lacunas removed in country, the subsidies are really beneficial to farmers.
- The agriculture subsidies are distributed by every country but its percentage is very low as compare to other country.
- In some cases the subsidy provided by government have negative impact on the performance of the farmers.

CONCLUSION

The above study clearly mentions that subsidies make some positive & negative impact on agriculture sector of India. The development of agriculture sector is very difficult without government subsidies. There are different types of agriculture subsidies provided by government of India but it was not implemented properly. If these lacunas removed in country, the subsidies are really beneficial to farmers. The agriculture subsidies are distributed by every country but the percent is very low and numbers of dependent is very large in India. The government of India has taken serious measure for development of agriculture sector and agriculture subsidies are one of the tools for the growth of agriculture sector in India.

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Orissa Journal of Commerce, Volume XXXIX, January - 2019, Vol - 3, Pg - 49 -58 *ISSN : 0974 -8482*

WIDENING FISCAL DEFICIT IN INDIA : ROLE OF SUBSIDY MANAGEMENT

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ABSTRACT

Subsidy, an oft-heard word in fiscal management of a country, is, popularly accepted as one of the existing alternatives in the hands of any Government to foster development, reduce poverty, increase production, and above all to contain increasing magnitude of inflation. Given recent hike in the much discussed and much debated fiscal deficits in consecutive financial years, the issue of subsidy management demands inclusive attention. On the basis of the available data of Economic Survey of India 2016-17 along with budgetary outlets of union Government of previous and current fiscal years, it seems that FRBM (Fiscal Responsibility and Budgetary Management Act, 2003) has failed to contain the Government to face a mounting fiscal deficits. The increasing trend of subsidies in food, fertilizer and fuel coupled with the combined factors of Government's intent to be populist on the one hand and constant price fluctuations of different commodities in international financial markets are a few reasons for this dismal condition. Despite best efforts, carefully taken fiscal consolidation measures, and subsidy rationalization, the upward trend of fiscal deficit does not know downward trajectory. Therefore, this present research paper intents to find out the co-relation between GDP growth trend and magnitude of subsidies involved in it. It also tries to bring out an intra-subsidies comparative analysis so that it could find out clearly the increasing or decreasing trend of subsidies at micro level. While correlating different nature of subsidies management, this paper also examines the causes and contexts of increasing subsidies and increasing fiscal deficits in India.

Key words : Subsidy, fiscal deficit, fiscal consolidation, GDP, inflation and subsidy management.

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INTRODUCTION

Inclusive development or development having all stakeholders within has been the fundamental objectives of our sovereign government right since independence. With around 30 billion under poverty line, India destines to catch 8% or above GDP annually. The concept of welfare state as enumerated in the Directive Principle of State Policy mandates the ruling governments to design execute and channelize public policy in an effective way. To bring social equality along with bringing overall development of the lower strata of the society in equal foot, the government has been taking resort to multiple means and ways since the inception of the planning era. To channelize the available resources in such an effective way has been a great challenge to the successive governments of India.

With the World trending reverse of globalization, with cumulative failure of WTO's ministerial conference on wider subsidy related issues, with constraint of growing budgetary and fiscal deficits, coupled with greater magnitude of public debts, the government of India seems to have a little space to fulfill both the constitutional as well as popular mandates. Out of all the possible means of uplifting the downtrodden, reducing poverty and bringing inclusive development, government interventions- directly or indirectly- in developmental process seems to be feasible and customary. The visible or invisible government's support to crucial sectors in cash or in kind brings forth the concept of 'subsidy' into lime light.

Concept of Subsidy

Subsidy, a hotly debated and the most contentious issue in bilateral as well as multilateral forums is nothing but a sum of money granted by the state or a public body to help an industry or an entity which leads to a fall in the price of that subsidized product or services. The government of India is giving subsidies on food, fertilizer, fuel, interest payments, agriculture, and on many more items. Government uses subsidy for dual purposes of uplifting the downtrodden and reducing the gap between the 'haves and the have-nots' as well as the tendency of ruling government to become populist. However, subsidies are essential for the country due to providing safety net for poor, to reduce inequalities, to curbing price rise, and for the upliftment of students, women, farmers, minorities and economic backward classes. On the other hand, it increases government spending, breeds laziness among people, increases corruption, deteriorates the fiscal health of the country. Moreover, many subsidies are not availed by some targeted rural people due to illiteracy and negligence.

The Government of India has been initiating many subsidy programmes from the time of independence for the above cited reasons in successive annual budgets. The subsidy in India witnessed as one of the major concern for growing fiscal deficit. The basic reasons for increasing spree of subsidy are rising price level, increasing population, poverty, inefficient management, and political opportunities. However, the Fiscal Responsibility and Budget Management (FRBM) Act- 2003 has restricted the union Government to have fiscal deficit within 3 percentage of GDP. Hence, it is very essential to reduce the subsidy to ensure fiscal discipline and fiscal consolidation in India.

Given the large size of population coupled with the necessities of times, out of the total subsidies given subsidies on food, fertilizer and fuel constitute a significant part, and only the food subsidy accounts for 41.58% of total subsidy in an average during the study period. Government of India has initiated various measures for rationalizing subsidies in the budget allocation. But the result has not been satisfactory.

Despite the best efforts of the successive governments, the efficacy of subsidies has proved to be fiasco. Behind all these visible failures some crucial issues-endogenous and exogenous- associated with the subsidy

management in India stand prominent. Inability on part of the government to ascertain the targeted groups or beneficiary group leads to improper fund management, which has a deleterious effect on inclusive economic growth of the country. However, it needs efficacious management of subsidies to reduce the burden of fiscal deficit as well as to flourish economic growth in India.

Review of Literature

Subsidy is crucial for any welfare and developing country. In India, it was initiated since Independence. Many studies have been conducted by various researchers on this topic. Central explicit subsidies have significant impact on fiscal deficit of India, and it is inferred that there is a tradeoff between economic efficiency and social equity in relation to subsidies. The Government should invest in capability building programmes to develop the skills as well as self-employment (Venkatraja, 2016). In a working paper of IIMA, it was observed that food subsidy system of India has been a major component of social safety net for the poor. The food subsidy of India has shown an increasing trend during the post reform period (Sharma & Alagh, 2013). Agricultural subsidies witnessed an unequal distribution during 1980-81 to 2008-09 and the increasing rate of total agricultural subsidy is higher than the gross cropped area. Hence, some of the subsidies may be withdrawn without harming the farmers(Kaur & Sharma, 2012). The food subsidies of India have grown very sharply in the post-reforms period, which was more than 300 percent in just six years between 2006-07 and 2011-12. It needs to improve efficiency in operations of FCI but that may not lead to significant reduction in the subsidy. Steps are also needed to be taken to reduce other costs by taking various measures (Sharma, 2012).

Agricultural subsidy per hectare in India is less than the developed countries. From the study of five-year plans and annual budgets, it is found that there is a decrement in the provision of fund towards agriculture which results into slow growth and less contribution towards GDP(Salunkhe & Deshmush, 2013). Allocation of fund to social sector a human resource development is necessary for growth of a country. Hence, the central government may give more thrust on social sector expenditure to enhance quality of human resource and to transform India into a developed nation (Meril, 2016). There are three key issues with regard to fertiliser subsidy in India, firstly, rising amounts of fertilizer subsidy in the budget. Secondly, extremely low prices of urea leading to imbalanced use of N, P and K, as also misuse of urea, and finally lack of investment flown to this sector at home, lead to rising imports in the wake of uncertainty on fertilizer, subsidy policy issues and delayed payments to industry. The subsidies distribution may be switched to direct cash transfers to farmers on per hectare basis(Gulati & Banerjee, 2015)

From the above works, it has been observed that most of the studies are related to the impact and trend of subsidies. The previous studies are basically on food and agricultural subsidy, and only a few are found related to other subsidies. Many researchers have argued against the increasing subsidy and some of them are in favour of the increasing subsidy. It is considered that neither decreasing magnitude of subsidies nor increasing trend of fiscal deficit is beneficial for the country. Thus, this paper tries to find out the management efficiency and effectiveness of subsidy to reduce the magnitude of subsidy burden on the country without affecting the deserving beneficiaries.

Objectives

The main objective of this paper is to study the impact of subsidies on widening fiscal deficit and the management of subsidy in India. The specific objectives are as follows.

1. To make a trend analysis of subsidies at micro level.

2. To find out the correlation between fiscal deficit, and subsidies.
3. To study the management efficiency of subsidies in India.

Methodology

The present study is related to the study of subsidy management and fiscal deficit in India for 12 years from 2005-06 to 2016-17. The data for this study have been collected from the secondary sources. To meet the requirement of the research objectives, data are presented in time series to study their trend. Further, they are analysed by using statistical techniques such as ratio, percentage, averages and correlation. In order to make it more comprehensive the variables are given in tables, graphs, charts etc.

Trends of subsidy in India

To understand the magnitude and trends of the subsidies in India, the collected data are mentioned in various tables and figures. Data for this study are collected for 12 years from 2005-06 to 2016-17. Under this section, the trends and magnitude of subsidies in India at micro level are listed in the table no.1, which contains various subsidies such as food, fertilizer, fuel, interest, other subsidies and the percentage of total subsidies to Gross Domestic product (GDP).

Table - 1

Trend and magnitude of subsidies in India (Rs. in Cr.)

Financial Year	Food Subsity	Fertilizer Subsity	Fuel Subsity	Interest Subsity	Other Subsity	Total % of subsidy Subsity	to DGP
2005-06	23071	18460	2683	2177	1125	47522	1.29
2006-07	23828	26222	2724	2809	1381	57150	1.33
2007-08	31260	32490	2820	2311	1977	70926	1.42
2008-09	43668	76603	2852	3493	3009	129708	2.30
2009-10	58242	61264	14951	2686	4006	141350	2.18
2010-11	63844	62301	38371	4680	4223	173420	2.23
2011-12	72822	70013	68484	5049	1573	217941	2.49
2012-13	85000	65974	96880	7416	2385	257654	2.59
2013-14	92000	67972	85480	8175	1890	255516	2.27
2014-15	115000	67970	63427	8463	3398	258258	2.08
2015-16	139419	72415	29999	16730	5542	257801	1.93
2016-17*	135173	70000	27532	19425	8356	260485	1.72

Source: *www.indiastat.com and www.rbi.org.in*

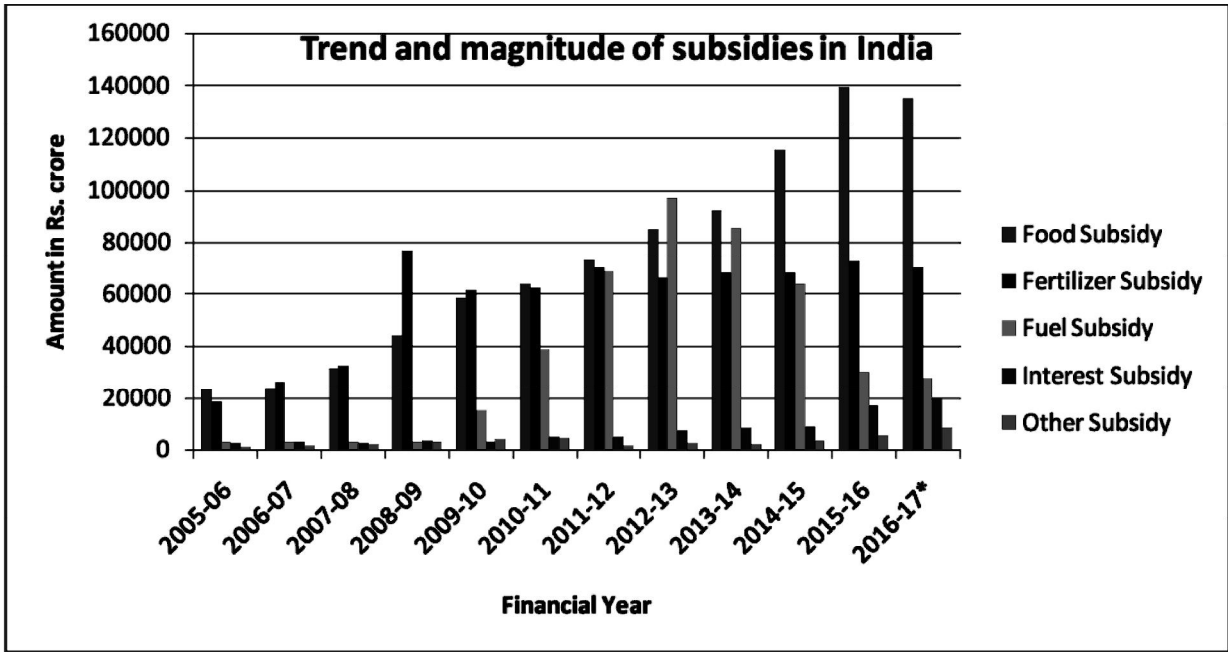
*** Revised estimate (RE)**

From the above table it is found that the total subsidy shows an increasing trend from Rs. 47,522 cr. to Rs. 2,60,485 Cr. in the year 2016-17 with a growth rate about to 5.5 times in 12 years. Food subsidy also shows an increasing trend and it increased from Rs. 23,071 to Rs. 1,35,173 during the same period with an increment of 5.86 times. Fertilizer subsidy shows an increasing trend for the first four years and then remained almost

constant, but the fuel subsidy shows an increasing trend till 2012-13.Then it is reduced to a significant level. Interest subsidies also show a rising trend while other subsidies show a mixed trend. Further, these data are shown in figure no.1 for better apprehension.

Figure 1

Trend and magnitude of subsidies in India (Rs. in Cr.)



Above figure shows the composition of different subsidies during 2005-06 to 2016-17 in a chart. The subsidy in later stage shows more diverged in comparison to initial years. It has been observed that the food subsidies increased constantly compared with other subsidies.

Again, the percentage of various subsidies to the total subsidy as well as their mean values are shown in the table no. 2.

Table - 2

Ratio of various subsidies to total subsidy

F. Year	% of Food subsidy	% of Fertilizer	% of Fuel	% of Interest	% of Other	T o t a l
	Subsidy	Subsidy	Subsidy	Subsidy	Subsidy	
2005-06	48.55	38.85	5.65	4.58	2.37	100
2006-07	41.69	45.88	4.77	4.92	2.42	100
2007-08	44.07	45.81	3.98	3.26	2.79	100
2008-09	33.67	59.06	2.20	2.69	2.32	100
2009-10	41.20	43.34	10.58	1.90	2.83	100
2010-11	36.81	35.92	22.13	2.70	2.44	100
2011-12	33.41	32.12	31.42	2.32	0.72	100

2012-13	32.99	25.61	37.6	2.88	0.93	100
2013-14	36.01	26.60	33.45	3.20	0.74	100
2014-15	44.53	26.32	24.56	3.28	1.32	100
2015-16	54.08	28.09	11.64	6.49	2.15	100
2016-17*	51.89	26.87	10.57	7.46	3.21	100
Mean	41.58	36.21	16.55	3.81	2.02	100

Source: *data analysis in excel*

It is observed from above table that food subsidy constitutes about 41.58% of total subsidy in an average. In the year 2015-16, it accounts for 54.08%, which is all time high during the study period. Other subsidies constitute a minimal share in total subsidy. It varies between 3.21 to 0.72. Fertilizer subsidy also constitutes a large part of the total subsidy with an average of 36.21 percentage ranging from 59.06 to 25.61.

Analysis and interpretation

Whether subsidy can be taken as the best medium of development or not, whether subsidies affect the process of the concept of inclusive growth or not, whether subsidy has been efficiently managed or not, and whether subsidy affect the fiscal deficit of the country or not, can only be concluded provided we critically analyze the facts and figures of different economic indicators of India in an objective way. This section analyses and evaluates the magnitude of subsidy for the study period. Firstly, the quantum of subsidies are analysed in relation to the fiscal deficit and GDP size of the country in table no. 3 in both amount and percentage.

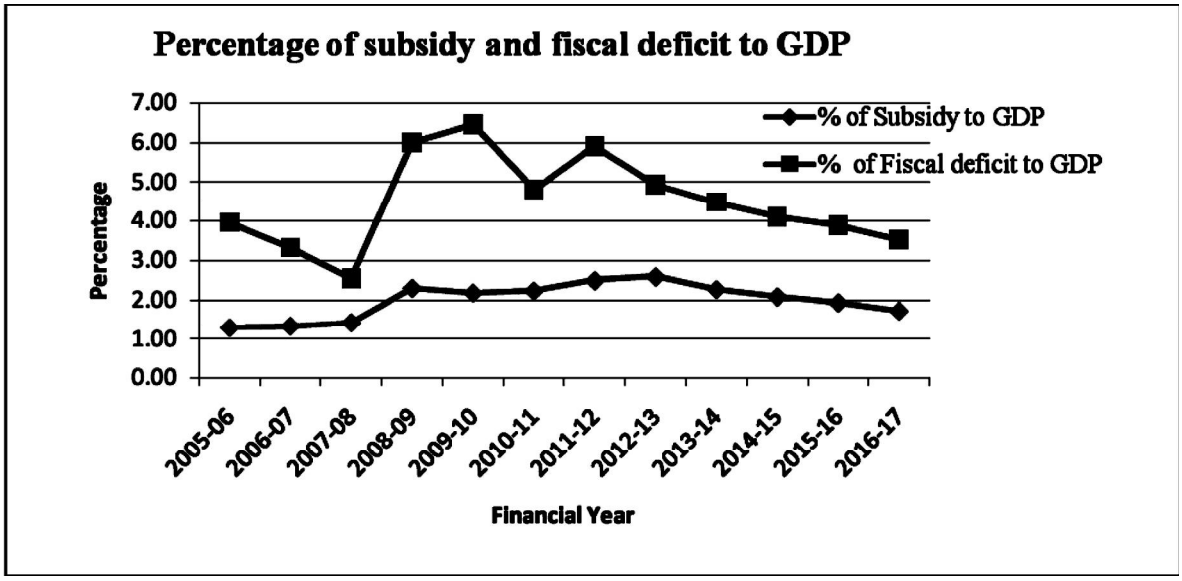
Table - 3

Quantum of subsidy to fiscal deficit and GDP (In Rs. Cr.)

Year	Total Subsidy	Fiscal deficit	% of Subsidy to deficit	% of Subsidy to Fiscal deficit	% of Fiscal to GDP to GDP
2005-06	47522	146435	32.45	1.29	3.96
2006-07	57150	142573	40.08	1.33	3.32
2007-08	70926	126912	55.89	1.42	2.54
2008-09	129708	336992	38.49	2.30	5.99
2009-10	141350	418482	33.78	2.18	6.46
2010-11	173420	373591	46.42	2.23	4.80
2011-12	217941	515990	42.24	2.49	5.91
2012-13	257654	490190	52.56	2.59	4.93
2013-14	255516	502858	50.81	2.27	4.48
2014-15	258258	510817	50.56	2.08	4.10
2015-16	257801	532791	48.39	1.93	3.89
2016-17	260485	534274	48.75	1.72	3.52
Mean	177311	385992	45.04	1.99	4.49

Source: *www.rbi.org.in*

Above table shows the ratio of subsidy to fiscal deficit as well as GDP. During the study period, though initially the magnitude of subsidy in relation to both fiscal deficit and GDP shows an increasing trend and then it declined to some extent. However, the government, at times, fails to check the required fiscal deficit below the prescribed level of the FRBM Act. The average percentage of subsidy, presently, is about to 45.04% of the fiscal deficit, and which was more than 52% in the year 2012-13. Further, it is reduced to 48.75 % of the deficit in the year 2016-17 as per the revised budgetary estimates. The average fiscal deficit to GDP during the study period, though, stood at 4.49%, there had been a decreasing trend for last 5 years after the government initiated various reforms. Again, the relationship between subsidy and fiscal deficit with relation to GDP as shown in the figure no 2 as follows.



Percentage of subsidy and fiscal deficit to GDP

Above figure shows the line chart of percentage of subsidy and fiscal deficit to the GDP of India. Both the variables show a positive trend in the figure. Hence, it is assumed that the subsidy has a relation with fiscal deficit. It will be more clear from the correlation analysis.

After the pictorial representation of the variables, this research has tried to find out the correlation between the variables in table no. 4. The data are presented in SPSS to find out the correlation between the variables.

Table - 4

Correlations between subsidy, fiscal deficit

		Subsidy	Fiscal Deficit
Subsidy	Pearson Correlation	1	.961**
	Sig. (2-tailed)		.000
	N	12	12
Fiscal Deficit	Pearson Correlation	.961**	1
	Sig. (2-tailed)	.000	
	N	12	12

**. Correlation is significant at the 0.01 level (2-tailed).

Source: *data analysed in SPSS*

From the above Pearson's correlation analysis, it is found that there is a strong positive correlation i.e.0.961 existing between the subsidy and the fiscal deficit. It amply proves that the subsidy has a direct impact on the fiscal deficit of the country. The growing trend of subsidies with its consequent negative effects demands an efficient, effective and economic use not only of the funds allocated for subsidy purposes, but also of the total processes starting from policy formulation to its implementation at micro level. In nutshell, the gloomy economic situation demands the effective management of subsidy.

Management of Subsidy

Management becomes essential where there is a scarcity of resources. Managing subsidy seems to be indispensible for the country i.e. India running with deficit budget. Cumulative tradeoff between the vision of welfare state and economic development, growing quantum of external debts caused due to widening fiscal deficit stand prominent while discussing about proper management of subsidies in India.

It is very important that government should reform the structural weaknesses in the existing legislative system, such as diminution of subsidy contestability, increased transparency on subsidy amounts and beneficiaries from within the government, and increased transparency from outside of the government (Subsidy Reform and Sustainable Development, 2007). India government has implemented various reform processes in subsidy management since 2013. Introduction of Direct Benefit Transfer (DBT) system for gas in fuel subsidy, production of Neem coated urea in fertilizer subsidy, and introduction of DBT or distribution under Targeted Public Distribution system(TPDS) through fair price shop through biometrical authentication of beneficiary in point of sale (PoS). Still, there is question mark on the efficiency of subsidy distribution in India.

In an average 75 percentage of rural population and 50 percentage of urban population are covered under TPDS ("National Food Security Act" n.d.), whereas only 25 % in rural area and 14% in urban area people are under BPL category (World Bank). Further, the targeted beneficiaries to fertilizer subsidy have utterly failed to avail the subsidy amount in India due to certain objective and subjective reasons. Demographically out of 17.92 cr. house hold 56% household don't have agriculture land(The Indian Express, 9 July 2015), existence of small and marginal farmers i.e. out of the total 64.57 million hectare Net Irrigated Area, 48.16 percent is accounted by Small and Marginal holdings (Agricultural census of India 2010-11), and wealth gap between the rich and the poor farmer. Low tele-density, rampant poverty, low level of literacy among the rural masses, and above all ignorance of poor farmers of different government subsidy programmes aggravate the existing scenario. From different studies and reports in India it has been observed that due to malfunctioning of village level mandies and bureaucratic red-tapism the output subsidies given on agriculture besides input fertilizer subsidy could not reach to the targeted beneficiaries.

The above analysis amply proves the extent of mismanagement of subsidy programmes in India. Therefore, to ensure effective and efficient management of subsidies in India the following suggestions can be made. Firstly, the number of beneficiaries under the National Food Securities Act need to be revised and reduced on the basis of an innovative parameter targeting only eligible families; secondly, for successful implementation of DBT stress should be put on availability of banks in rural areas and expanding tele density; thirdly, before providing output agricultural subsidy in the form of MSP extensive land reforms should be undertaken; fourthly, subsidy on fuel should be rationalized so that the economically backward groups can only avail the benefit and Lastly, timely disbursement of subsidy is essential for maximization of the benefit.

Conclusion

Subsidy can never be a panacea for a government confronted and limited with domestic as well as alien challenges. Subsidy becomes very sensitive when it is debated politically. The mounting public debts resulting from growing fiscal deficits, though symbolizes greater governments spending on capital formation, pushes the 3rd fastest economy into invisible trap. Though subsidy can bring brightness for a short period, but it leaves a negative legacy on developmental trajectory.

It is true that India houses a great number of poor not only in South Asia but also in the World. The government has to bring social and economic equality by economically empowering the downtrodden. For this, the government has to spend more on social sector and capital formation. The government has to contain inflation and bolster production. Even more, the ruling government has the tendency or obsession of being populist, which directly hits the limited financial resources of India. Besides above compulsion, the facts and figures characterizing India in international forum through different indices and indexes, such as HDI, GHI, by international organizations, propels successive Indian governments to give more subsidy on multiple sectors and in multifarious way. Given the facts of growing fiscal deficit, external debts, slowing economic activities, strict benchmark of 3% of GDP of fiscal deficits, arguments and counter arguments in WTO on subsidy, the Indian government has little space to rely on subsidy as vehicle of development. It seems that Indian government has to rationalize the subsidy policy more openly. Critical sectors have to be put stress. Economy has to be given much space for its own resilience without subsidy.

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Orissa Journal of Commerce, Volume XXXIX, January - 2019, Vol - 3, Pg - 59 - 63 *ISSN : 0974 -8482*

MANAGEMENT OF SUBSIDY : SOME ISSUES & CONCERNS

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ABSTRACT

INTRODUCTION

In a federal type of government system there are two types of expenditure. One is plan expenditure and the other is non-plan expenditure. Hence subsidy is considered as non-plan expenditure. The purpose of subsidy is to continue the welfare of the society. Subsidy can be described as transfer of money from the government to an entity. It leads to the fall of the prices of the product. Most of the subsidy is meant to reduce the financial burden of the either the businessman or the general public in the society.

KEY WORDS : Plan expenditure, profitability, negative impact, resources, budgetary control, taxation.

MEANING OF SUBSIDY

According to the discussion paper on government subsidy it has been mentioned that as being non-transparent, inefficiently administered, poorly targeted, leading to misallocation and waste of resources. It also observed that subsidy generally imbalance the government budget. Though the discussion paper was published in the year 1997 by the central government with an debate to reduce the subsidy in the country more than two decades have passed and attempt to reduce subsidy is far behind of the government agenda now. Though the present government is planning certain measures to reduce subsidy in some areas but it is not seems to be significant in present scenario. Because the policy makers of the country are in a consensus for reducing or to eliminating subsidy in our country.

Prof. Sukhamoy Chakravorty once observed that "Societies which have grown fast during the recent period have so not because the sum total of the problem solving effort has been vastly greater in any measurable sense but they could succeed in evolving a broad consensus on priorities."

* *Prof. Dhyanadipta Panda. KIIT university, Bhubaneswar.*

So it can be said that subsidy management in our country is not up to the mark and it is a concern for the government how to reduce subsidy as a result the economic condition of our country will improve. On the other hand it is a concern of the government that how the subsidy in true sense will be available to the deserved people of the society. Now it is observed that the government is spending cores of rupees in form of subsidy but it is not available to the deserved citizens rather it is enjoyed by the affluent class of the society. Now the policy makers of the country are trying to reduce the volume of subsidy so that not only the economic condition of the country will increase but also the standard of living of the general public will rise.

OBJECTIVES OF THE STUDY

The following are the broad objectives of the report.

To know different types of subsidy prevailed in our country.

To find out some of the issues of subsidy.

To analyze the remedial measures to reduce subsidy.

RESEARCH METHODOLOGY

The present study is based on secondary data. The data are collected from text books, journals, magazines, published materials and some data are incorporated from web site.

DIFFERENT TYPE OF SUBSIDY

The following are some of the subsidy which are now prevailing in our country. They are.

01. DIRECT FINANCIAL TRANSFER

This is a type of subsidy which is meant for the industry and the business community. In this type of subsidy the amount of subsidy is directly paid to the industry by the government. This type of subsidy has a direct short term effect on the profitability of the business enterprise. The cost of the government is found in the public budget and its direct value to the industry will appear directly in the cash flow of the business enterprise. But sometimes this type of subsidy has also a negative effect on the profitability of the business.

INDIRECT FINANCIAL TRANSFER

This type of subsidy is provided by the government in form of services but not in form of cash. This indirect transfer of services has also direct impact on the profitability of the enterprise. The cost of this subsidy may or may not reflect in the public budget of the enterprise. It is not mandatory on the part of the enterprise to show the cost of the subsidy in accounting procedure of the industry.

02. INTERVENTION WITH DIFFERENT SHORT TERM AND LONG TERM EFFECT:

This is another type of subsidy which includes longer time perspective. In this type of subsidy the government intervenes and the cost of the subsidy has an negative impact on the economic condition of the industry. Both long term and short term financial impact has been reflected in accounting procedure of the enterprise. Generally this type of subsidy is considered as an administrative expenditure of the enterprise. Though the amount of subsidy is considered as an administrative expenditure it will help the enterprise on the long run profitability.

03. LACK OF INTERVENTION

This type of subsidy covers the area of lack of government intervention. It may be the inaction on the government side which is reflected on the long term and short term cost of the production enterprise. As a result this type of subsidy has a positive impact in the short run and negative impact in the long run. As a result the cost of the subsidy will not imply to the government and their value to the industry.

There is a clear cut difference between government expenditure and subsidy.

GOVERNMENT EXPENDITURE

In India the Govt. expenditure is divided into two categories. One is developmental and the other is non developmental expenditure. Fiscal services, administrative services and state organ services are considered as non- developmental expenditures of the Govt. These are generally considered as public goods. These expenditures are neither supplied by the market nor they can charged to the individuals for their consumption. These are paid by taxation and the issue of subsidy is not relevant in these cases.

On the other hand both the central and state government are actively participate in social and economic services. Budgetary subsidies arises when the budgetary cost of providing the goods and services is more than the recovery made by the user or the beneficiary of the services. What ever is the difference paid by the tax payers which is justified in some times and not justified in other time.

ISSUES ON SUBSIDY

The policy makers and financial experts of our country are in the opinion that some subsidy is justified and other subsidy is not justified at all. Now there is a question how we can justify a subsidy and how we can in - justify a subsidy in India. The following are some of the issues which tends to justify the concept of subsidy and the other issues are not justified by the policy makers. The issues related to the services with desired high intermediate and low degrees of subsidization. The exact degree of subsidization may ultimately need to be determined the extent of subsidization. Determination of right degree of subsidization is associated with cost and preferences given by the society. On the other hand it is directly associated with the cost objectives and distributional objectives. As it is difficult to quantify the exact parameter to prove subsidy it depends on the society to exercise collective judgment to what extent the subsidy has to be imposed to the public at large.

In order to justify the issues on subsidy the following degrees of services may be taken into consideration:-

MERIT-01

This category is limited to the items which are implied judgment of the heads of expenditure. In these issues the participation of the government is a priority which needs to be highest subsidization. It is further emphasized that the items listed in this issues are only accounting heads. Some of the issues in this category are Elementary Education, primary health care, prevention and control of diseases, ecology and environment. The economist are in the opinion that this category of expenditure should be given highest priority while determining the degree of subsidy. Accordingly the merit of these expenditures should be 80 to 100 percent subsidy for a proper subsidy management of our country.

MERIT-02

This category is limited to the items which are the expenditures like higher education, family welfare, sanitation services, welfare of ST and SC citizens, social and welfare scheme, food program for the BPL category, Social and farm forestry, rural development, major and medium irrigation projects, non conventional sources of energy village and small industries etc. The provision of subsidy in these expenditures should be decided according to the availability of surplus fund in the control of both central and state government. These expenditures account 50 to 70 percent of subsidy for a better management of subsidization of our country.

NON-MERIT

These category needs to be zero subsidization. The expenditures on these category are energy, coal and iron industry, cement and non metallic industries, petrochemicals, chemical and pharmaceuticals, diary development

projects, telecommunication and electronic industries, consumer industries, civil and aviation, road transport and postal services. These expenditures are related to welfare activity of the general public . But the extent of subsidy should be decided on the basis of surplus fund available in central as well as state government . The subsidy should be limited to 0 to 10 percent.

Further it may be said that even the presence of government may be limited to that extent the percentage of subsidy should be considered as a priority in some issues and for other activity . As a result subsidy management of our country can be improved for a better economic development.

MEASURES TO REFORM SUBSIDY

Considering the present situation of subsidy it is observed that amount of subsidy increases day by day which is reflected in the budgetary deficit. In order to cut throat the budgetary deficit it is necessary to find out remedial measures so that a reform can be possible in subsidy sector of the country. According to the economist the following remedial measures to be taken into consideration.

01. INEFFICIENCY AND COST

Inefficiency leads to a higher cost of production. So it creates a wedge between subsidy that are actually received by the user of service and the service that are borne by the budget. The difference is subsidy inefficiency. It is observed that the systematic inefficiency like overstaffing, poor maintenance of assets, procedural delay, late in taking critical decisions are some of the inefficiency which is a key factor for rise in subsidy. This enables the government to increase the level of subsidy so that overall cost can be increased. As a result the cost of production will be high and the government subsidy will be more . Due to this inefficiency the cost associated with governmental provision of services tend to be high. This high cost is born either by the user or consumer who are the tax payers of the society. When the user cannot pay enough to cover legitimate cost it is the tax payer who subsidizes both type of cost. Hence one of the important measure to reduce subsidy it is desirable to reduce the inefficiency cost .

02. TARGETED SUBSIDY

In India there are some targeted areas where subsidy is provided by the government. Properly targeted subsidies achieve the desired results with a limited draft on the budgetary resources. The beneficiary of the subsidy should be a person rather than a sector. Many subsidies in India are administered through inputs like fertilizers, power, irrigation water and petroleum products like petrol and diesel. The subsidy in agriculture, industry, and other sectors are distributed according to the pattern of consumption of the concerned product. As the pattern of consumption reflects the pattern of income population with higher income whose purchasing power is high can enjoy the subsidy on products . So due to income effect the subsidy becomes one of the essential target of the government. Hence it is desirable to reduce the targeted subsidy phase wise so that the burden on the government can be reduced in the long run and fiscal deficit can be reduced in budget.

03. CHANGE THE TREND IN SUBSIDY GROWTH

This is considered as one of the important measure to check subsidy of our country. The degree and volume of subsidies have an inherent tendency to increase because of different reasons . As a result the cost and the receipt grow over time. Input cost and user charges increase in normal course of time. As a result public scrutiny and upward revision in them being processed through public bodies and authorities tend to remain glued to old normal levels. So it is necessary to reverse this process so that there can be a check in the volume of subsidy in the country.

04. DEALING WITH HARMFUL SUBSIDY

Excess of subsidization leads to harmful effects. The subsidy which is considered as unwarranted fiscal cost should be checked in order to avoid significant damage. As over subsidization in fertilizer leads to excessive use of fertilizers in land which resulted in compassion and erosion of fertility of top soil. On the other hand excessive use of pesticide due to over subsidy leads to environmental pollution and the crop became over chemical not hygienic for food and use as food item. Hence these harmful subsidy should be checked in order to cut down the subsidy. As it is considered that excess subsidy in petrol used by the motor riders resulted in environmental pollution. So it is right time to check and control the harmful subsidy in order to have control over subsidy and fiscal deficit.

CONCLUSION

Both central and state governments of India feel that budgetary subsidy arise when the budgetary cost of providing goods and services are more than the recovery made by the user of the services. This difference is managed by the tax payer of our country. As subsidy is meant for the common people of our country it is said to be one of the alarming condition for the present government as the benefit of subsidy is not enjoyed by the people to whom it is meant for.

Considering on account of subsidy on budgetary resources and their effect of subsidy on economy there seems to need in prescribing even at the initial stage a time limit should be decided for the continuation of subsidy in our country. The duration of subsidy should be decided so that the beneficiaries may look for a suitable alternative for their consumption profile.

Management of subsidy is an important task of the government now in order to provide the benefit of subsidy to the common people of our country. In order to check the volume of subsidy there should be reduction of inefficiency cost, targeted subsidy, change in trend of subsidy and checking of harmful subsidy.

It can be said that India being a developing country subsidy management is an important element in order to provide economic benefit to all citizens of the country. But due to mismanagement of subsidy the benefit does not available to the citizens for whom it is meant for. So it is desirable that the economist and planners should innovate suitable ways and means which can determine the exact duration of subsidy in our country and decide the suitable person to whom subsidy is necessary.

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Orissa Journal of Commerce, Volume XXXIX, January - 2019, Vol - 3, Pg - 64 -76 *ISSN : 0974 -8482*

THE IMPACT OF THE SUBSIDY POLICY ON ENERGY PRODUCTIVITY : AN EMPIRICAL ANALYSIS ON LPG SUBSIDY

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ABSTRACT

Subsidies are one of the most powerful policy tools in the hands of the government. In India, as elsewhere, they have been used for decades to achieve a range of economic, social and environmental objectives. Indeed, one of the most important and challenging responsibilities of a government is allocating financial resources to achieve public good. The government subsidises energy with the aim of improving energy access by making prices more affordable, shielding domestic consumers from international price volatility, and supporting energy-intensive industries. With specific reference to LPG, studies have found that solid fuel use within enclosed spaces has marked adverse health impacts and by contrast, LPG carries the label of being a 'clean and healthy fuel'. Therefore, the objective of LPG subsidies is that if provided across the country at lower rates, households across the board will increasingly shift from using the more polluting solid fuels to LPG. Data, however, shows that although there is an increase in the uptake of LPG over the years, this is much more concentrated in the urban areas and among the non-poor, while the majority of the households in the country continue to depend on solid fuels as their main cooking fuel. Recently, the government has announced withdrawal of the LPG subsidies in a phased manner. The proposal is to remove certain categories of individuals such as Members of Parliament (MPs), Members of Legislative Assembly (MLAs), and gazetted officers out of the subsidy net in the first phase, and in the next phase, adopt an income criterion to identify who would be ineligible for the subsidy. The primary objective of this study is to analyse the efficacy of LPG subsidy in making clean cooking fuel affordable for households across the economic strata; and to suggest appropriate reforms to rationalise the subsidy mechanism to meet the energy needs of underserved population. This paper is aimed at examining the effect of energy subsidy on energy and also analyses the effect on LPG subsidy on India.

Key wards : Implication of energy subsidy, LPG subsidy, LPG subsidy give up

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1. INTRODUCTION

India currently provides consumption subsidies for a range of petroleum products. In fiscal year 2013-14, the Government of India and associated public sector enterprises incurred total costs of Rs. 142,471 crore1 (USD $23.4bn) subsidizing the retail prices of diesel, Liquefied Petroleum Gas (LPG) and kerosene. The negative social and environmental impacts of fossil-fuel subsidies are widely acknowledged. By distorting price signals, petroleum product subsidies artificially inflate demand, leading to increased consumption and associated emissions of greenhouse gases and other pollutants. They dis-incentivize improvements in energy efficiency and the development of cleaner energy services, and contribute to fuel adulteration and trafficking. Fuel subsidies are also typically socially regressive, and carry a significant social and economic opportunity cost by displacing more effective social and infrastructural investment.

LPG was introduced to the country in 1955 and subsidies became part and parcel of the commodity in the late-70s, when the government took complete control over the provision of essential commodities such as fossil fuels derived from petroleum (MoPNG, 2013c). Until 1978, there were virtually no imports but subsequently, with the rise in popularity of LPG, domestic capacity expansion (to manufacture) as well as imports began to rise. Household consumption of LPG in recent years, has consistently accounted for 85 per cent to 90 percent of the total LPG consumption in the country (CSO, 2013).Much of the growth in the consumption of LPG has been witnessed because of the massive subsidies associated with its domestic consumption. Currently, every household with an LPG connection in India, irrespective of its economic or social status.

2. LITERATURE REVIEW

Under this study an extensive review of literature has been carried out for the purpose of providing an insight into the work related to energy subsidy with regards to LPG. Several studies have been conducted to examine the impact of subsidy management on different aspects of the energy sector.

- **Integrated Research & Action for Development(IRADe) on"Increasing LPG Price without Burdening Consumers" (2014),** higher price of LPG will incentivize people to use it more effectively. There are many ways in which gas use can be reduced: a lower flame, a wide bottomed vessel, covering the pot and lighting it after the pot is in place, all can help reduce gas consumption. Much of the cooking energy is lost due to radiation and convection. This can be prevented by covering the pot with another inverted pot. Also stacking pots utilizes the heat that transfers upwards due to hot gases or vapors rising from the lower pots. With these principles, a set of cooking pots called "EcoCooker" that saves 50 to 70 percent of gas in cooking using gas flame size appropriate to the size of the cooking vessel has been developed in the country.
- **Bartl, Fankhauser & Tepic(2007)** Is cooking energy priced at affordable levels in India and what is a desirable level of expenditure on cooking? Affordability in relation to energy and utility services is widely discussed in literature as the capacity to pay for a minimum level of service
- **Chester, Fankhauser & Winkler (2011)** In a discussion on affordability, it is difficult to define a normative threshold for the affordability ratio, below which the energy could be termed as affordable. However, there exists a precedent in literature where governments or international agencies have tried to establish such normative limits on different energy expenditures to design policies to safeguard vulnerable or low income groups.

3. RELEVANCE OF THE STUDY

The present study will carried on knowing the effects of subsidy management in energy sector. It is cleared to know how the subsidy management will benefited the energy sectors with regard to LPG subsidy. Further the study attempts to clarify that what is the economic effect after the LPG gives up by the socially straighten people.

4. OBJECTIVE OF THE STUDY

The broad objective of this study is tomeasure the impact of subsidy management in energy sectors with regard to LPG subsidy. The two main objectives of the study are mentioned below-

- To critically analyze the impact of subsidy management in energy sectors with regards to LPS subsidy in India.
- To strategically evaluate the impact of LPG subsidy gives up by the socially straighten people to the society.

5. RESEARCH METHODOLOGY

The study is based on secondary data. The data collected from different journal, magazines, newspaper, webs, research paper are preferred for the study.

6. DATA AND METHODOLOGY FOR THE STUDY

The main objective of this study is to thoroughly review India's subsidy on LPG, a common and highly subsidised household fuel in the country; and analyse the socio-economic impacts of its removal. The study involvesempirical analysis and suggestssteps and approaches that could be acceptable to various stakeholders and help sustain efforts to remove the LPG subsidy. The study useseconometric and statistical tools for examining the socio-economic impacts of the LPG subsidy removal.

The study uses secondary data from 2000 to 2015 obtained from various sources, namely the World Bank Database; the Reserve Bank of India; the Petroleum Planning and Analysis Cell of the Ministry of Petroleum and Natural Gas; and the Ministry of Statistics and Programme Implementation, Government of India. The most limiting part of this analysis is the availability of data, and the current study uses data from 2001–2014. As this data is available only on an annual basis, we have only 14 observations per variable, thus time series techniques are not used as there could be a significant loss of degrees of freedom, making the estimates erratic.

7. IMPLICATION OF ENERGY SUBSIDY IN INDIA

Diesel

In the first two quarters of fiscal year 2014-15, publicly-owned Oil Marketing Companies (OMCs) continued the policy of implementing gradual monthly increases in retail diesel prices introduced by the UPA government in January 2013. Following the temporary suspension of scheduled rate increases during the parliamentary elections, the OMCs implemented the delayed rises in mid-May, with the incoming NDA administration confirming its intention to continue the policy. Scheduled price increases were then implemented on 1st June, 1st July, 1st August and 31st August, leading (in conjunction with a period of exchange rate stability and falling oil prices) to the effective cessation of diesel consumption subsidies by September 2014. On 18th October 2014 the government announced the formal decontrol of diesel prices with immediate effect, with OMCs reducing retail diesel prices by Rs. 3.37 perliter.

LPG

In fiscal year 2014-15 (to date) there have been no significant increases in the retail price of subsidized LPG. The NDA administration has retained the previous UPA government's January 2014 decision to increase the annual per household cylinder quota from 9 to 12 per household. In addition, on 27th August 2014 the new administration announced the removal of the separate monthly restriction on cylinder release of one per month, and proposed the reintroduction of the Direct Benefit Transfer for LPG (DBTL) scheme previously adopted (and subsequently suspended) by the UPA in January 2014. On 18th October 2014 the government announced its intention to fix the total subsidy per cylinder, and reintroduce the DBTL scheme in two phases commencing in November 2014. On 10th November 2014 it was reported that the per-cylinder subsidy would be fixed at Rs 568 from March 2015 – an amount Rs 163.36 above the average per cylinder under-recovery recorded in early October 2014.

Kerosene

In fiscal year 2014-15 (to date) there have been no increases in the retail price of PDS kerosene. The NDA government has thus far retained the previous administration's policy of progressively reducing total PDS kerosene allocations. In addition, the new government is reportedly considering the phased adoption of the Direct Benefit Transfer for kerosene (DBTK) scheme previously piloted (but not adopted) by the UPA.

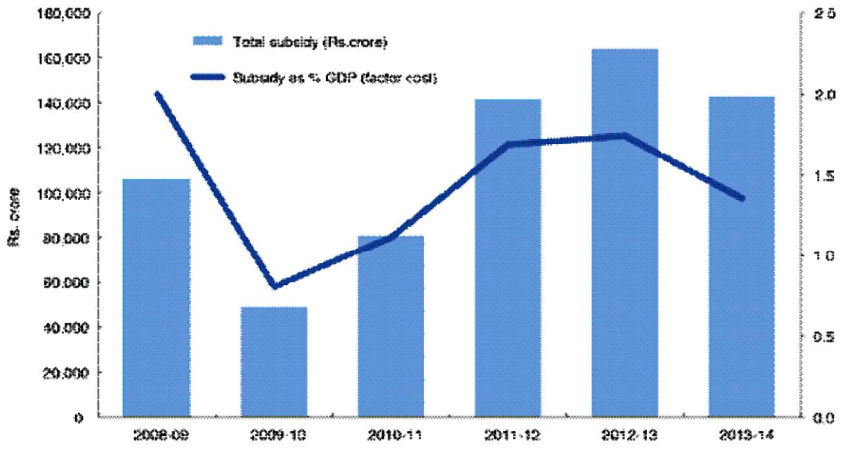
Natural gas

In June 2013 the UPA administration announced its intention to revise the price of natural gas supplied under the Administered Price Mechanism (APM), with the potential to significantly affect input prices in key sectors and increase related power and fertilizer subsidy outlays. The scheduled revision to gas prices on the basis of the Rangarajan Committee's recommended formula, notified in January 2014 and initially intended to take effect in April 2014, was stayed by the Election Commission (EC) for the period of the parliamentary elections. On June 25th the new NDA administration then announced its intention to postpone a final decision on price revision for a period of three months with the stated aim of allowing consultations with key stakeholders. On 24th September the government then announced a further postponement of the decision to 15th November 2014. On 18th October 2014 the government announced an increase in the price of gas supplied under the APM on the basis of a modified version of the Rangarajan formula, rising from USD $4.2 per million BTU to USD $5.61 per million BTU with effect from 1st November 2014 until 31st March 2015, with future price rises to be implemented on a bi-annual basis.

Overview of Current Fuel SubsidyExpenditure

In fiscal year 2013-14, total fuel subsidy expenditure on diesel, LPG and kerosene fell from the record high of Rs. 163,759 crore (USD $26.9bn) - or 1.74% of GDP - in 2012-13 to Rs. 142,470 crore (USD $23.4bn) (1.36% of GDP)(Figure 1).

Figure 1: Total diesel, LPG and kerosene subsidy / subsidy as % of



Source: Reserve Bank of India (RBI) (2014), MoPNG (2014b; 2014c)

8. LPG Subsidy in India

Since fossil fuel subsidies have a negative impact on India's economy, there has been increasing attention on reducing and removing the subsidies. Although subsidies on petrol and diesel have been removed completely, those on kerosene and LPG are still imposing a tremendous pressure on the government's fiscal budget. India's total subsidy bill for the current (2015–2016) budget was estimated at Rs2.43 trillion (Indian Rupees), about 9 % below the revised estimate of Rs.2.66 trillion for 2014–2015. The reduction has been aided by the fall in the price of crudeoil, the decontrol of diesel and petrol prices,and thecash transfer scheme for disbursing LPG subsidies.

The total petroleum subsidy in the current budget(2015–2016) is estimated at Rs.300 billion, which includes Rs.220 billion for cooking gas(LPG) and Rs.80 billion for kerosene, a cut of

50.22 % from the revised estimate of Rs.602.7 billion for 2014–2015. The revised estimate is almost 5% below the budgeted estimate of Rs.634.27 billion.This provision is based on taking the average crude price at US$70 a barrel during the fiscal year. According to the GOI (Govt. of India), until now, Rs63.35 billion has been transferred directly as LPG subsidies to 115 million LPG consumers.The estimates for the current fiscal year indicate a saving of about Rs.65 billion in LPG subsidies due to the direct cash transfers to the bank accounts of beneficiaries (Bhaskar, 2015; Sinha, 2015). Table 8.1 shows the total subsidy on kerosene and domestic LPG for the pastdecade.

LPG subsidies are supposed to benefit economically weaker households, but in reality, often fail to reach the target population. For example, while the GOI provides a large subsidy for LPG, the majority of Indians who use LPG as a cooking fuel a reurbanites and the economic allywell-off.On the other hand, most of India's1.2billion people who are below the poverty line dwell in rural areas and continue to use traditional fuels, such as coal, wood, or dung, for cooking and heating. Also, both subsidised kerosene and LPG, which were made available to needy people through a public distribution system, have in the past been wrongly diverted for commercial use.Table-8.2 shows the sector-wise outgoing subsidies and their proportion of GDP for 2011–2012 to 2014–2015.

Table 8.1. Total Subsidy on Kerosene (Rs/liter) and Domestic LPG (Rs/cylinder) (2004–2005 to 2014–2015).

Year	*Public Distribution Scheme, Kerosene			Domestic LPG		
	From government budget	By public sector oil company	Total subsidy	From government budget	By public sector oil company	Total subsidy
2004–2005	0.82	7.96	8.78	22.58	124.89	147.47
2005–2006	0.82	12.10	12.92	22.58	152.46	175.04
2006–2007	0.82	15.17	15.99	22.58	156.08	178.66
2007–2008	0.82	16.23	17.05	22.58	214.05	236.63
2008–2009	0.82	24.06	24.88	22.58	234.88	257.46
2009–2010	0.82	14.85	15.67	22.58	178.13	200.71
2010–2011	0.82	17.39	18.21	22.58	249.94	272.52
2011–2012	0.82	26.46	27.28	22.58	320.30	342.88
2012–2013	0.82	31.16	31.98	22.58	427.14	449.72
2013–2014	0.82	33.98	34.80	22.58	499.52	522.10
2014–2015	0*	27.93	27.93	0*	409.72	409.72

Rs = Indian Rupees Extension of Subsidy schemes for 2014–2015 approved by Government. However, no payment was made in 2014 - 2015.

Source: Ministry of Petroleum and Natural Gas, Government of India (2016).

Table 8.2. Sector-wise Outgoing Subsidies and their Share of GDP in India (2011–2012 to 2014–2015)

	Subsidy (Rs billion)				Share of GDP (%)			
Yeay Total	**Food**	**Fertilizer**	**Petroleum**	**Total**	**Food**	**Fertilizer**	**Petroleum**	
2011–2012	728.22	700.13	684.84	2,113.19	0.81	0.78	0.76	2.35
2012–2013	850.00	656.13	968.80	2,474.93	0.84	0.65	0.96	2.45
2013–2014 BE	–	–	–	–	0.79	0.58	0.57	1.94
2013–2014 RE	920.00	679.71	854.80	2,454.51	0.81	0.60	0.75	2.16
2014–2015 BE	1,150.00	729.70	634.27	2,513.97	0.89	0.57	0.49	1.95

BE = budget estimate, GDP = gross domestic product,

RE = revised estimate. **Source:** Lok Sabha (2015).

The Go I has also initiated the Direct Benefit Transfers cheme for LPG subsidies, now renamed as PaHaL, an abbreviated form of “Pratyaksha Hastaantarit Laabh”, meaning “Direct Benefit Transfer”, which

covers more than 65% of the 154 million LPG consumers. This scheme is the largest in the world and surpasses similar cash-transfer programmes in other countries, such as China, Mexico, and Brazil, where the maximum number of beneficiaries is no more than 22 million (Economic Times,2015).

Under the PaHaL scheme, LPG cylinders are sold at the market rate and consumers receive the subsidy amount directly into their bank accounts to enable them to buy the fuel at the market rate. The main objective of the PaHaL scheme is to cut down diversions and eliminate ghost beneficiaries in LPG connections. Subsidies amounting to Rs320 billion have been directly transferred into the bank accounts of the beneficiaries. Also, 33.4 million duplicate/inactive/ghost accounts have been identified and blocked. PaHaL has resulted in a government saving of over INR 210 billion worth of subsidy (MoPNG,2016).

LPG is distributed to retail customers through a network of three public sector oil marketing companies(OMCs), namely the Indian Oil Corporation Limited, Bharat Petroleum Corporation Limited, and Hindustan Petroleum Corporation Limited, and the burden of the subsidy is shared by these OMCs and the GoI. Each household must be registered with one of the authorised LPG dealers in order to buy an LPG cylinder for domestic use. As per the present

scheme of the Go I, there is a limit on the LPG subsidy, and domesticconsumerscanonlyavail of 12 refills of subsidised LPG cylinders per household peryear.

Inaddition, the GoIal so regulates the price at which the OMC scan selldomestic LPG, leading to under-recoveries (the difference between the cost price incurred by the companies and the price realised upon sale to the final consumer). Subsequent to the realisation of under- recoveries by the OMCs, the government then applies an adhocburden-sharingme chanism, distributing the total subsidy cost between the exchequer (through direct budgetary transfers to the companies, the OMCs, and the main upstream and midstream public sector undertakings, mainly the Oil and Natural Gas Corporation, and to a lesser extent Oil India Limited and the Gas Authority of India Limited(IISD,2014). Thus, any reform on the removal or reduction of the LPG subsidy will have a direct impact on government spending at the macro level, and on household budgets at the micro level. The indirect impact could be in terms of reduced fuel consumption and subsequent reductions in airpollution and emissions of GHGs.

Direct Benefit Transfer Scheme

Direct Benefit Transfer (DBT) is an initiative of the central government to make electronic paymentsfor centrally funded social protection schemes, using the framework of a national level uniqueidentification (UID) programme. In case of LPG subsidy, it works as a 'cash enabled in-kind transfer'wherein the subsidy is provided, contingent on the purchase of an LPG cylinder at the prevailingmarket price, directly to the bank account of the beneficiary. After being in the 'roll-out phase' fornearly 6 months, the DBT for LPG subsidy was stopped in early 2014 (The Economic Times, 2014).The scheme was withdrawn in the face of mounting public pressure from its inefficient implementationas well as the debate surrounding the constitutional validity of the UID registration process. However,the newly elected government has proposed to re-launch DBT for LPG subsidy disbursal (BusinessStandard, 2014) and has planned to extend the DBT to 300 districts in India (The Indian Express,2014).

It is imperative that the new government reinstates the DBT in a manner such that, it does not contravene any constitutional provisions, is efficient, functional and finds wide acceptance. Thoughadministratively demanding, DBT enables a uniform market price of LPG, which would preventdiversion from distributors and hence ensure better targeting of subsidy. It is virtually a prerequisite forany efforts intended to rationalise the subsidy disbursal process. As DBT requires both the enrolment of UID and possession of a bank account, it is equally importantthat

government simultaneously works on increasing UID enrolment and increasing the access toformal banking services, especially in rural India. As regards the former, a target of one billion UID enrollments has been set (The Indian Express, 2014). The latter issue is likely to get addressed with the recently launched **Pradhan Mantri Jan Dhan Yojana,** which aims to provide universal access tobanking facilities. It has initial target of opening up bank accounts for 75 million families within anyear, along with provision of credit and insurance facilities (PMO, 2014).

9. LPG SUBSIDY GIVES UP

Recently the Government has requested its citizens, belonging to the middle class and above who have a higher income range, to give up their LPG subsidies so that it may benefit citizens from the lower income range. As of today, more than 3.2 lakh people have given up their LPG subsidies – as reported by the Government in www.giveitup.in.

Advantages of giving up LPG subsidy

A citizen who belongs to the middle and the upper middle class with a higher income bracket can afford to purchase LPG at full market price; thereby they can give up their LPG subsidies for the people of the lower economic bracket.

1. **Stabilise the economy –** The Government spent Rs. 40,000/- crores in the year 2013-2014 for LPG subsidies. If well to do citizens give up their LPG subsidies, amount the Government spends on subsidies lessens by half, enabling thousands of people in the lower income bracket access to basic fuel at subsidised rates.
2. **Lower the fiscal deficit of the country** – Fiscal deficit is the difference between the government's expenditures and its revenues (not including the money it has borrowed). India's current fiscal deficit is 4.1% from its GDP, a reduction from 4.5% in the previous year; as reported by Finance Minister Arun Jaitley in the Budget 2015.
3. **Give access to the poor** – Currently, citizens belonging to the lower economic bracket and citizens who do not have access to clean fuel use wood for cooking. When well to do citizens give up their LPG subsidies, the Government can utilise it to provide LPG subsidy benefits to the poor.
4. **Help strengthen agriculture sector** – We are all aware that agriculture is the backbone of our country. The Government plans to strengthen farmers and give them access to technology in agriculture, in the long run when the Government recovers the money it has spent on subsidies, it can use the resources to help develop the agriculture sector, thereby empowering farmers and protecting their assets.

The following sets of regressions have been assessed to predict the socio-economic impact of the removal of the LPG subsidy as given below.

(1) Impact of the LPG subsidy removal on LPGconsumption

Step 1

$$LPGC = f(GDP, LPGP/CPI, LPGC_{-1}) \quad \text{....(1)}$$

where: LPGC = LPG consumption (kg)

GDP = gross domestic product (Rs)

LPGP = LPG retail price (including subsidies; Rs/kg)

CPI = consumer price index (2010 = 100)

LPG–1: lag of LPG consumption

f : linear function

The econometric model used in the study is stated as follows:

LPGC = ß0 + ß1GDP + ß2LPGP/CPI + ß3LPGC – 1 + ut ....(2)

where: ß0 = constant factor

ß1 = coefficient of GDP

ß2 = coefficient of LPG Rs/kgdividedby the consumer price index

ß3 = coefficient of lagged value of the dependentvariable

ut = error term

The log of equation (2) is calculated as:

ln LPGC = ß0 + ß1 ln GDP + ß2 ln LPGP/CPI + ß3 ln LPGC – 1 + ut ....(3)

ß0, ß1, ß2, and ß3 are the parameters in the model to be estimated, and we expect ß1 < 0, ß2 > 0, and ß3 >0. Thus, we expect that the LPG subsidy removal in the short term could have a negative impact on social welfare. However, in the long term, the impact of the LPG subsidy removal could be positive. The lagged value of the dependent variable, which is LPG consumption, is expected to have a positive relationship withGDP.

Step 2

LPGS = f (LPGC) ....(1)

where:

LPGS = LPG subsidies (retail price)

LPGC= LPG consumption (kg)

Accordingly, the econometric model used in the study is stated as follows:

LPGS = ß0 + ß1LPGC + ut ....(2)

where: ß0 = constant factor

ß1 = coefficient of LPG consumption/kg ut = error term

The log of equation (2) is as follows:

In LPGS = ß0 + ß1 ln LPGC + ut ....(3)

We expect that the spending on the total LPG subsidy is not determined by the consumption expenditure on LPG..

(2) Estimation of government savings on LPG consumption (LPGSV)and LPG subsidies from the removal of the LPG subsidy(LPGSS)

LPGCC = f (GDP,LPGPP/CPI,LPGC–1) ....(1)

where: LPGCC = LPG consumption (kg) at the market price

GDP = gross domestic product (Rs)

LPGPP: LPG price without subsidies (market price)

CPI = consumer price index (2010 = 100)

LPGC = LPG consumption (kg)

We estimate LPGSS = f (LPGSV), where LPGSV = LPGC – LPGCC.

The econometric model used in the study is stated as follows:

LPGCC = ß0 + ß1GDP + ß2LPGPP/CPI + ß3LPGC – 1+ut ....(2)

where: B0 = constant factor

ß1 = coefficient of GDP

ß2 = coefficient of LPG price without subsidies (market price)/kgdividedby consumer price index

ß3 = coefficient of lagged value of the dependent variable ut = error term

The log of equation (2) is as follows:

$\ln LPGCC = ß_0 + ß_1 \ln GDP + ß_2 \ln LPG\ PP/CPI + ß_3 \ln LPGC - 1 + ut$ ....(3)

(1) Macroimpact

GDPP = GDP + LPGSS

where: GDPP: GDP after removing the LPG subsidies

LPGSS: saving amount of LPG subsidies after removing the subsidies

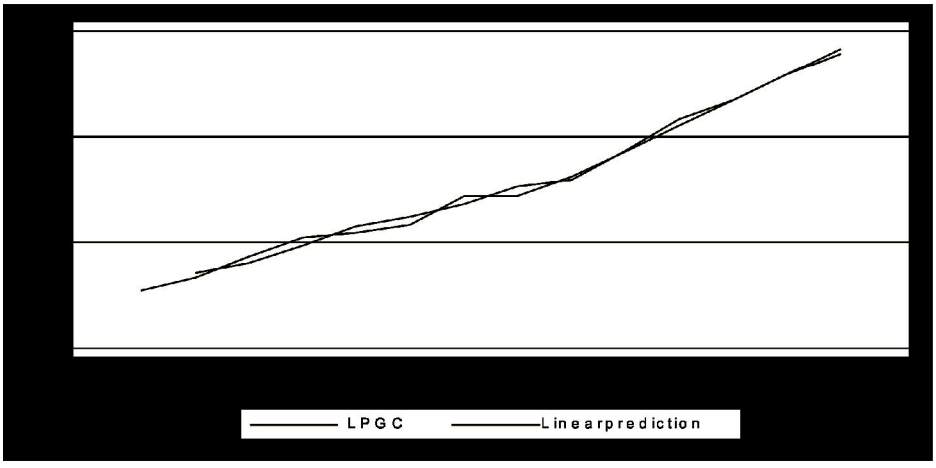
9.1 Results andDiscussion

9.1.1 Impact of the LPG subsidy removal on LPGconsumption

$LPGC = ß_0 + ß_1GDP + ß_2LPGP/CPI + ß_3LPGC - 1 + ut$

In terms of the impact of the LPG subsidy removal on LPG consumption, when we regress the total consumption of LPG in the Indian economy over the total GDP, the discounted price of LPG(including subsidies),and the lagged value of the repressor (LPGC), we observe that GDP is the only significant variable. The results show a positive relation between GDP and consumption of LPG, which is expected since the greater the income generated in a fiscal year, the higher we can expect consumption to be.Figure 9.1 shows the actual values and the fitted values. The fit is very good and this is supported by the value of R-squared and adjusted R- squared (Figure 9.1 and AppendixA).

Figure 9.1 Impact of the LPG Subsidy Removal on LPG Consumption



LPGC = liquefied petroleum gas consumption.

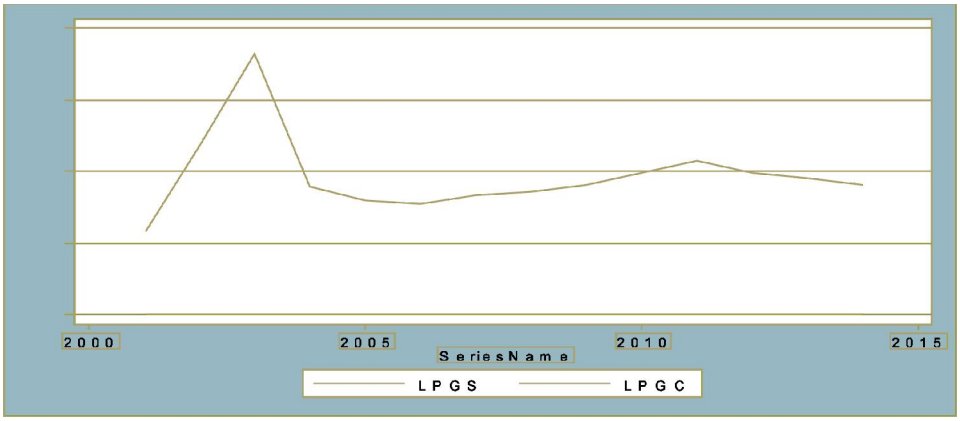
Source : *Authors.*

9.1.2 Impact of the total LPG subsidy on LPG consumptionexpenditure

$$LPGS = ß_0 + ß_1 LPGC + ut$$

From the regression analysis for estimating the total subsidy on LPG as a function of the total consumption (Appendix B), we see that the consumption is not a determinant of the total subsidy bill of LPG. Even if we use the lagged value of the total consumption, the results remain the same. Hence, we can interpret that the total subsidy bill is not determined by the consumption expenditure on LPG.. This can be seen in Figure 9.2, where the LPGS curve is volatile while the LPGC curve does not share the sametrend.

Figure 9.2. Estimate of the Influence of the Total LPG Consumption on the Total Subsidy Bill of LPG



LPGC = liquefied petroleum gas consumption, LPGS = liquefied petroleum gas subsidy.

Source : *Authors.*

9.1.3 Estimating government savings on LPG consumption(LPGSV) and LPG subsidiesdue to removal of the LPG subsidy (LPGSS).

$$LPGCC = ß_0 + ß_1 GDP + ß_2 LPG\ PP/CPI + ß_3 LPGC - 1 + ut$$

When total LPG consumption is regressed upon the LPGPP, GDP, and the regressing'slagged value, the results indicate the same observations as earlier. In this analysis, too, only the coefficient for GDP is significant, while the others are insignificant. Further, the relation is positive as expected. Thus, it can be concluded that the price of LPG, with or without subsidy, is not a significant determinant of the consumption expenditure. In this case, also, the R- squared and adjusted R-squared values are very high, indicating that the model is a good fit .

9.1.4 Macroeconomic impact of change in the LPG subsidy on theeconomy

$$GDPP = GDP + LPGSS$$

When evaluating the macroeconomic impact of a change in the LPG subsidy on the economy, one must account for the other variables which impact the GDP's rate of growth. Under this analysis, it has been assumed that the rate of growth for an economy depends upon the employment rate, the savings rate and the lagged value of the rate of growth (Appendix D). It is seen that the coefficient for the LPG subsidy is insignificant; this suggests that changes in the LPG subsidy will not influence the rate of growth of the economy. Thus, based on the above analysis, we can conclude that the LPG subsidy, in its current form does not have a significant impact at the economy level.

Conclusions and PolicyImplications

In India, LPG is one of the primary fuels used by households for cooking and it is subsidised by the government for domestic consumption where the exchequer provides LPG to consumers at adiscountedprice.Thisnotonlycausesanimmenseburdenonthefiscalbudget,butalsoleads to market distortions as it affects government debt, imports, and the exchange rate, etc. A gradualderegulationofsubsidisedpetroleumproductshasbeenwitnessedoverthepastfew years wherein the GoI deregulated the prices of diesel and petrol in 2010–2012, thereby reducing some of the fiscal burden. However, in an environment in which the least intervention in market operations is desirable, the policy option of doing away with these subsidies or reforming them needs to be considered.

This study has assessed the socio-economic impacts of an LPG subsidy removal in India through empirical analysis. It recognises that removal of this subsidy must be gradual and also socio-economically acceptable to all stakeholders and consumers. This is not an easy task, and thus any reform or removal of the LPG subsidy must be done through policy that benefits poorer households.TherecentsuccessoftheGoI's"GiveitUp"schemetoencouragevoluntaryrefusal of the LPG subsidy by affluent households is a new and promising beginning. Around 10 million households have surrendered their LPG subsidy, resulting in government savings of about Rs.41.660 billion.Additionally, thesesubsidisedLPGconnectionscanbeprovidedtoeconomically weaker households, who are and should be the real beneficiaries. Based on the results of the analysis, we suggest the following policy implications.

- In order to implement the domestic LPG subsidy removal in India, it is important to involve all the stakeholders in consultations or discussions related to the current cash transfer subsidyschemeandthegovernmentprogrammerelatedtoit.Basedonintensediscussions among the stakeholders and in-depth research and analysis, the LPG subsidy data should be made readily available and the beneficiaries must be educated about the pros and cons in the long run for the subsidy removal to be acceptable economically and socially.
- The government should create more awareness through publicity and campaigns to sensitise citizens to the benefits of phasing out or removing the LPG subsidy. Subsequently, the government should adopt a transparent policy to brief the citizens on how the money saved due to the removal of the LPG subsidy in the household sector will be channelled to other social welfare measures, such as healthcare, education, increased job opportunities, and better infrastructure, to benefit low-incomegroups.
- An empirical analysis of the socio-economic impacts of the removal of the LPG subsidy estimates the fiscal pressure of the LPG subsidy policy on the household sector for government spending and GDP. The results of the regression analysis suggest a positive relationship between GDP and the consumption of LPG. Estimates of the total LPG subsidy asafunctionofthetotalconsumptionrevealthattheconsumptionisnotadeterminantof the total subsidy bill of LPG. Further, the analysis indicates that the LPG price (both the subsidised price as well as the market price) is not a significant determinant of India's consumption expenditure. Thus, as the total subsidy bill is not determined by the consumption expenditure on LPG, the removal of the LPG subsidy will not have a negative impact on the consumption of LPG.

- In terms of the macroeconomic impact of the change in the LPG subsidy on the economy, using variables that have an impact on the rate of GDP growth indicates that the coefficient for the LPG subsidy is insignificant. This implies that the rate of growth of the Indian economyisnotinfluencedbytheLPG subsidy, and thus removal of the LPG subsidy will not have a broad impact on theeconomy.

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Orissa Journal of Commerce, Volume XXXIX, January - 2019, Vol - 3, Pg - 77 - 92 *ISSN : 0974 -8482*

SUBSIDY AS A PANACEA TO SOCIO ECONOMIC PROBLEMS : DYNAMICS AND DILEMMAS FROM AN ECONOMETRIC PERSPECTIVE

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ABSTRACT

Although India is the 3rd largest economy in terms of Purchasing Power Parity, it is still regarded as the underdeveloped nation. This is evident from basically two angles like Social and Economic. In the recently published Global Hunger Index, India slipped to 100th position trailing Iran and Bangladesh. Besides that, other social problems like Poverty, malnutrition, Illiteracy etc have added the impetus to intensify the problem. On the other hand various Economic problems like Low per capita income, unstable inflation rate, Fiscal deficit, low savings rate etc. also make it crystal clear. To curb these problems for the sake of socio economic upliftment, subsidy in various sectors are being provided by the Government from time to time. This paper tries to investigate the Role of subsidy given by the Govt., whether delimiting growth or decreasing it. For the purpose of study, Time series data for fifteen years have been analysed by using Auto regressive Distributed lag (ARDL) model and Granger Causality Test. Besides those, Augmented Dickey Fuller (ADF) Unit Root Test, Phillip Peron Test, Descriptive Statistics, Pearson's bivariate Co relation, Variance Inflation Factor for Multicollinearity, ANOVA etc. have been applied to examine the empirical results of the dataset. The results reveal that there is a positive relation exists between Subsidy and various socio economic parameters.

Key words: *Subsidy, Socio Economic development, ARDL, Exchange Rate, GDP*

1. INTRODUCTION

In it's 70 years down the line, Indian economic scenario shows only few problems have abated, while new ones cropped up and poverty still stubbornly remains a pressing problem. When India grew in first decade of millennium at average rate of 7.5%, it was found that this growth was jobless and unsustainable. India's

economy faced supply side constraints, which didn't increase productivity as compared to GDP. RBI had to then control spiraling inflation by steep hikes in interest rates. In the field of political science, India stood out as a case that does not fit into existing models of thought on the nature of a state and defies ease of understanding. India, at the eve of independence was left with uphill task of socio-economic development .Subsidies are one of the quintessential attributes of any welfare state. Subsidies can be a form of protectionism by making domestic goods and services artificially competitive against imports. According to The Economist subsidy means Money paid, usually by government, to keep prices below what they would be in a free market. The subsidy is usually given to remove some type of burden and is often considered to be in the interest of the public. Politics play an important part in subsidization. There are many forms of subsidies given out by the government, including welfare payments, housing loans, student loans and farm subsidies. Subsidies are often money paid by the government, and they do have the ability to distort markets. According to Investopedia subsidy means A benefit given by the government to groups or individuals usually in the form of a cash payment or tax reduction.

Subsidies are meant for poor people and they shall ensure equitable redistribution of resource. Subsidies extended to rich are regressive. They help in keeping poverty intact and create inefficiencies in economy which culminates in inflation and corruption. However, there is risk that some households will misuse this cash in social evils like alcohol, tobacco or gambling. For this government has made eldest women in a household target beneficiary for cash transfers. This step is likely to empower women. Rationalization of subsidy regime will improve markets in India which will then attract more investment. This in short, can turn the wheel of a virtuous economy which creates more employment and attacks poverty at its roots.

2. LITERATURE REVIEW

Ogunbodede et al (2010) argued that subsidy is a social obligation to ameliorate the suffering of the economically disadvantaged keeping the price of fuel exceptional low absorbed the poor from fluctuating international price.

IMF (2013) maintained that any subsidy program that is poorly planned is more likely to face widespread opposition. In planning for subsidies those who would be affected and how they will benefit should be taken into consideration. The problem of most energy subsidy program arguably is its poor planning and inability to meet its target population.

Beers and Moor (2001) based on simulation analysis, reported an increase in global welfare of $35 billion if consumer subsidies in non-OECD countries are removed. Real income for the world as a whole would increase by 0.7% annually while the terms of trade would improve by 0.5% per year.

Olomola (2012) studied the impact of oil price shock on aggregate economic activity in Nigeria. He used the Vector Autoregressive (VAR) model to assess the volatility of GDP, Money supply, exchange rate, CPI caused by change in oil price. He found that change in oil price have no significant impact in all the dependent variable except for exchange rate.

Aliyu (2009) studied the impact of oil price shock and real exchange rate volatility on gross domestic product (GDP) in Nigeria. He employed the cointegration technique to determine the volatility of GDP to change in oil prices and exchange rate. The result of the long run analysis showed that an increase in the oil price by 10 percent increases GDP by 7.7 percent. Also, a 10 percent increase in exchange rate will increase GDP by 0.35 percent. His work showed that the short run mechanism has a significant impact on the long-run equilibrium. He opined that to reduce the impact of oil, the economy should be diversified.

3. STATEMENT OF THE PROBLEM

Subsidy in India plays a very major role in dilapidating the socio economic problems as providing a relief to the poor generally. In the period our literature review we hardly found any evidence of the above mentioned topic. So we decided to investigate that whether there is any impact of subsidy on solving the social and economic problems in India by contributing to economic growth parameters.

4. OBJECTIVES OF THE STUDY

1. To explore the impact that subsidy on solving the socio economic problems in India. .
2. To investigate whether there is causal relationship existing between subsidy and human development Index and GDP growth in India.

5. HYPOTHESIS OF THE STUDY

The hypotheses of this study include:

H_1: subsidy has a positive impact on solving India's socio economic problems.

H_1: A mutual correlation exists subsidy and development and economic growth in India.

6. DATA SET, METHODOLOGY AND ECONOMETRIC MODELLING

This study uses annual secondary data from the Planning commission, Central statistical office, hand book of statistics on Indian Economy, RBI, Data.Gov.nic.in, Government of India etc. The period of observation covered in this study is between 1996-97 to 2016-17.

6.1 VARIABLES

Dependent variable: SUBSIDY

Independent variables: PERCAPITA INCOME (PCI)

CONSUMER PRICE INFLATION (CPI)

UNEMPLOYMENT RATE (UR)

We have run the Augmented Dickey fuller and Phillip-Perron Statistics test to know the stationarity of the dataset and found that the all the variables are stationary at I(1) So we concluded to apply Co-Integration model for our analysis purpose.

6.2 PROPOSED MODEL

$Y = ß0 + ß1 \times 1 + ß2 \times 2 + ß3 \times 3 + ß4 \times 4 \ldots\ldots\ldots + \varepsilon it$

Notation:

Where:

Y = dependent variable i.e. Subsidy

B_0 = Intercept

B_1, b_2, etc. are coefficient

1,2,3, etc are the variables.

εt is the usual white noise residuals.

6.3 OTHER TESTS APPLIED

Granger causality test: too explore the causal relationship between all the variables.

Breusch-godfrey serial correlation LM test: to know whether there is any serial correlation among the variables selected for the model

Wald test: association between all the variables.

Normality Test

Heteroscedacity test

E-Views 9.0 Statistical Package is used for computing the results for this study.

7. SUBSIDIES AND ECONOMY

Subsidies are traditionally considered to distort the market and therefore impose economic costs. However, if subsidies are not merely a wasteful transfer of funds that are siphoned away by corrupt officials instead of reaching the intended beneficiaries, but are instead understood to have a positive developmental impact, then that means that subsidies (as well as other benefits delivered by government programs) also enhance the capability of people to engage in markets. If that is true, then subsidies may have a short term cost on the market, but in the long run, they could generate economic benefits since more people would be able to better engage in markets and therefore contribute to economic growth. Higher borrowing results in higher amount of interest to be paid. So in short, careless or politically motivated subsidy results in lower revenues for government and higher unproductive expenditure. Further, if government is unable to borrow money or to raise taxes, it will have to print new currency to finance deficits, which increases money supply in the economy. This creates inflationary trends in economy. Incoherent subsidy regime does more harm than good for the cause it stands – socio- economic development.

However, in a democracy, subsidy once extended becomes a politically sensitive issue and governments suffer huge political risk if they phase out such subsidies. Overtime, new subsidies are extended which pile up on older ones and they soon consume scarce revenue resources of government. This takes a heavy toll on other expenditure of the government. They are forced to cut allocation to developmental and infrastructure avenues. Further, higher subsidy expenditure pushes up fiscal and revenue deficits as government starts spending more than it earns. This fiscal deficit can be closed preferably by raising more revenue through new taxes (proactively) or by borrowing money.

8. TYPES OF SUBSIDY

(a) Fertilizer Subsidy: It includes Distribution of cheap chemical or non-chemical fertilizers among the farmers. It amounts to the difference between price paid to manufacturer of fertilizer (domestic or foreign) and price, received from farmers.

(b) Irrigation Subsidy: Subsidies to the farmers which the government bears on account of providing proper irrigation facilities. It includes canals, dams which the government constructs and charges low prices or no prices at all for their use from the farmers. It may also be through cheap private irrigation equipment such as pump sets.

(c) Power Subsidy: The electricity subsidies imply that the government charges low rates for the electricity supplied to the farmers. It is the difference between the cost of generating and distributing electricity to farmers and price received from farmers.

(d) Seed Subsidies: High yielding seeds can be provided by the government at low prices. The research and development activities needed to produce such productive seeds are also undertaken by the government, the expenditure on these is a sort of subsidy granted to the farmers.

(e) Credit Subsidy: It is the difference between interest charged from farmers, and actual cost of providing credit, plus other costs such as write-offs bad loans. They are cash strapped and cannot approach the credit market because they do not have the collateral needed for loans. To carry out production activities they approach the local money lenders.

(f) Export Subsidies: This type of subsidy is not different from others. But its purpose is special. When a farmer or exporter sells agricultural products in foreign market, he earns money for himself, as well as foreign exchange for the country. Therefore, agricultural exports are generally encouraged as long as these do not harm the domestic economy.

9. DATA ANALYSIS AND EMPIRICAL RESULTS

Table 1: Descriptive Statistics

	SUBSIDY	UNR	PCI	CPI
Mean	151526.6	7.493333	52598.40	6.973333
Median	141351.0	8.200000	46249.00	6.200000
Maximum	264105.0	9.500000	103219.0	12.30000
Minimum	43533.00	3.400000	20996.00	3.800000
Std. Dev.	92954.10	2.018651	28496.73	2.808524
Skewness	0.048944	-1.062075	0.431476	0.434956
Kurtosis	1.294252	2.746960	1.761645	1.837574

Source : *Author's Calculations using E-Views 9.0*

Table 2: Pearson's Bivariate Correlation Matrix:

	SUBSIDY	CPI	PCI	UR
SUBSIDY	1			
CPI	0.384665108	1		
PCI	0.965432423	0.202405495	1	
UR	-0.32185453	-0.192670716	-0.3140405	1

Source : *Author's Calculations using E-Views 9.0.*

STATIONARITY TEST

An Augmented Dickey–Fuller test (ADF) tests the null hypothesis that a unit root is present in a time series sample. The alternative hypothesis is different depending on which version of the test is used, but is usually stationarity or trend-stationarity. The common practice is to ADF test. However, to ensure, we have used the PP test. The results of the unit root tests are presented in the Table below

Table 3: RESULT OF UNIT ROOT TEST

RESULT OF UNIT ROOT TEST					
		AUGMENTED DICKEY-FULLER			PHILLIPS-PERRON
VARIABLES	**UNIT ROOT IN**	**T-STAT**	**PROB.**	**T-STAT**	**PROB.**
GDP	LEVEL	-3.685	0.062	-3.740	0.057
	1ST DIFF	-4.765	0.0162*	-9.595	0.0001*
CPI	LEVEL	0.154	0.993	-0.663	0.955
	1ST DIFF	-3.986	0.0428*	-4.958	0.009*
PCI	LEVEL	-3.112	0.144	-3.109	0.145
	1ST DIFF	-4.281	0.041*	-13.483	0.0001*
SUBSIDY	LEVEL	-2.353	0.382	-2.353	0.382
	1ST DIFF	-4.693	0.021*	-10.276	0*
HDI	LEVEL	-1.830	0.632	-1.768	0.661
	1ST DIFF	-4.126	0.0348*	-5.538	0.0048*
UNR	LEVEL	-2.925	0.187	-2.301	0.407
	1ST DIFF	-3.071	0.156	-4.786	0.0117*
	2ND DIFF	-3.920	0.0509*		

Source: *Author's Calculations using E-Views 9.0*

*** impllies significance at the, 5%.2. The numbers within parentheses for the ADF (Dickey-Fuller 1979) statistics represents the lag length of the dependent variable used to obtain white noise residuals.3. The lag length for the ADF was selected using Akaike Information Criterion (AIC).**

We found that all our variables are stationary at 1st difference. So we concluded to apply cointegration model for our analysis purpose.

DIAGNOSTIC TEST :

SERIAL CORELATION TEST :

Breusch-Godfrey Serial Correlation LM Test :

F-statistic	1.784674	Prob. F(2, 2)	0.3591
Obs*R-squared	8.331589	Prob. Chi-square(2)	0.0155

Endogenous variables: SUBSIDY UR PCI CPI

Exogenous variables: C

Date: 02/03/18 Time: 19:14

Sample: 1 15

Included observations: 13

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-353.5060	NA	9.06e+18	55.00093	55.17476	
54.96520						
1	-297.2392	69.25143*	2.18e+16	48.80604	49.67519	
48.62739						
2	-264.5426	20.12102	5.09e+15*	46.23732*	47.80180*	
45.91575*						

Source : *Author's Calculations using E-Views 9.0*

*** indicates lag order selected by the criterion**

LR: sequential modified LR test statistic (each test at 5% level)

FPE: Final prediction error

AIC: Akaike information criterion

SC: Schwarz information criterion

HQ: Hannan-Quinn information criterion

Test Equation:

Dependent Variable: RESID

Method: Least Squares

Date: 02/04/18 Time: 01:05

Sample: 3 15

Included observations: 13

Presample missing value lagged residuals set to zero.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	0.171964	0.301430	0.570494	0.6259
C(2)	-1.056646	0.670862	-1.575057	0.2559
C(3)	10648.71	6594.743	1.614726	0.2477
C(4)	-815.3055	1747.340	-0.466598	0.6867
C(5)	2.887735	2.436838	1.185034	0.3577
C(6)	-0.223902	1.781177	-0.125704	0.9115
C(7)	-1678.156	2106.845	-0.796526	0.5093
C(8)	7290.735	4933.067	1.477932	0.2775
C(9)	-136653.3	81433.20	-1.678103	0.2353
RESID(-1)	-1.704042	1.134858	-1.501547	0.2720
RESID(-2)	-2.046022	1.083854	-1.887728	0.1997

R-squared	0.640891	Mean dependent var	-4.74E-05
Adjusted R-squared	-1.154651	S.D. dependent var	4174.745
S.E. of regression	6127.995	Akaike info criterion	20.09963
Sum squared resid	75104643	Schwarz criterion	20.57766
Log likelihood	-119.6476	Hannan-Quinn criter.	20.00137
F-statistic	0.356935	Durbin-Watson stat	2.854202
Prob(F-statistic)	0.891876		

Source : *Author's Calculations using E-Views 9.0.*

Here we accept the null; hypothesis that there is no serial co relation because prob. Value is more than 5 %.

HETEROSCEDACITY TEST

Heteroskedasticity Test: ARCH

F-statistic	1.439849	Prob. F(1,10)	0.2578
Obs*R-squared	1.510351	Prob. Chi-Square(1)	0.2191

Test Equation:

Dependent Variable: RESID^2

Method: Least Squares

Date: 02/04/18 Time: 01:12

Sample (adjusted): 4 15

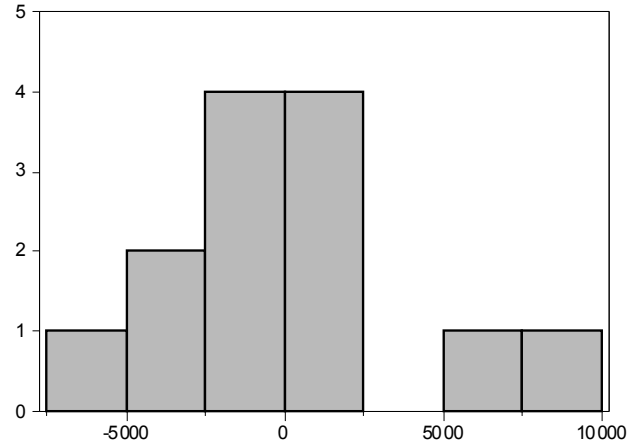
Included observations: 12 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	23570801	8621566.	2.733935	0.0211
RESID^2(-1)	-0.354998	0.295847	-1.199937	0.2578
R-squared	0.125863	Mean dependent var	17390090	
Adjusted R-squared	0.038449	S.D. dependent var	24424093	
S.E. of regression	23949951	Akaike info criterion	36.97184	
Sum squared resid	5.74E+15	Schwarz criterion	37.05266	
Log likelihood	-219.8311	Hannan-Quinn criter.	36.94192	
F-statistic	1.439849	Durbin-Watson stat	2.078253	
Prob(F-statistic)	0.257820			

Source : *Author's Calculations using E-Views 9.0*

Here also the prob. Value is more than 5 % so we accept the null hypothesis that there is no heteroscedacity in our model.

NORMALITY TEST

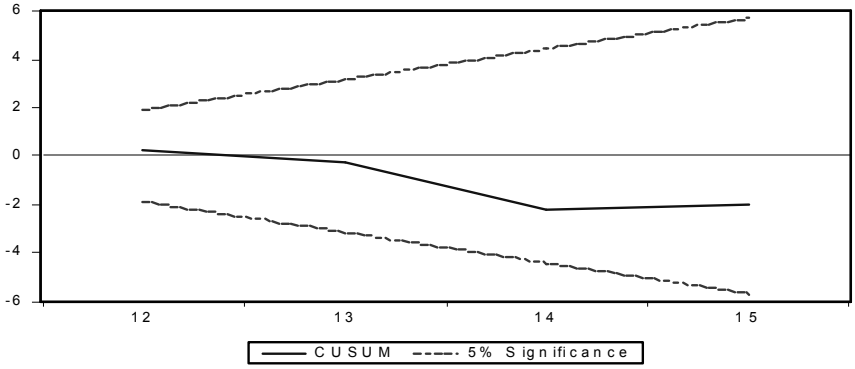


Series: Residuals	
Sample 3 15	
Observations 13	
Mean	-4.74e-05
Median	-678.8465
Maximum	8789.726
Minimum	-5826.937
Std. Dev.	4174.745
Skewness	0.738005
Kurtosis	3.028880
Jarque-Bera	1.180528
Probability	0.554181

Source : *Author's Calculations using E-Views 9.0*

Here the Jarque-Bera value is 1.18 and the probability value is 0.55 meaning that we will accept the null hypothesis that there is normality in the residuals in our model.

CUSUM TEST



Source : *Author's Calculations using E-Views 9.0*

The CUSUM test is based on the cumulative sum of recursive residuals based on the first set of n observations. It is updated recursively and is plotted against the break points. If the plot of CUSUM statistic stays within 5% significance level, then estimated coefficients are said to be stable. Since the plots of CUSUM statistic 1 marginally cross the critical value lines, and it is within the two red lines we can confident that our model is stable and we can proceed further now.

LAG SELECTION

Before going for analysis we must decide our lag length. Therefore we run the lag length criteria function in E-Views and the result is here

The above result shows that there should be two lags. Then we proceed towards cointegration model.

RESULT OF COINTEGRATION MODEL

Date: 02/03/18 Time: 19:55

Sample (adjusted): 3 15

Included observations: 13 after adjustments

Trend assumption: Linear deterministic trend
Series : SUBSIDY UR PCI CPI
Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.981809	91.51160	47.85613	0.0000
At most 1 *	0.848913	39.42303	29.79707	0.0029
At most 2	0.656739	14.85432	15.49471	0.0623
At most 3	0.070749	0.953889	3.841466	0.3287

Trace test indicates 2 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.981809	52.08857	27.58434	0.0000
At most 1 *	0.848913	24.56871	21.13162	0.0157
At most 2	0.656739	13.90043	14.26460	0.0570
At most 3	0.070749	0.953889	3.841466	0.3287

Source : *Author's Calculations using E-Views 9.0.*

Max-eigenvalue test indicates 2 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level.

**MacKinnon-Haug-Michelis (1999) p-values.

INTERPRETATION

Cointegration among the variables can be analysed from two angles . first is from Trace statistic and the other is from eigen value. From Trace statistic it is seen that in the first two cases Trace statistics value is more than the critical value and also the probability is less than 5 %. So the conclusion drawn here is that the null hypothesis is rejected that there is cointegration among the variables. Besides that there is at least two co integration among the variables. We found that there is long run association among the variables.

Now we will apply Unrestricted VAR model to find out the short run relationship among those variables.

UNRESTRICTED VAR MODEL

Vector Autoregression Estimates

Date: 02/03/18 Time: 21:40
Sample (adjusted): 3 15
Included observations: 13 after adjustments
Standard errors in ( ) & t-statistics in [ ]

	SUBSIDY	UNR	PCI	CPI
SUBSIDY(-1)	0.330605 (0.33286) [0.99321]	8.17E-05 (7.3E-05) [1.11374]	0.051297 (0.10519) [0.48766]	-4.12E-05 (5.6E-05) [-0.73979]
SUBSIDY(-2)	-0.968523 (0.37873) [-2.55727]	3.93E-05 (8.4E-05) [0.47023]	-0.239564 (0.11969) [-2.00160]	-7.47E-05 (6.3E-05) [-1.18031]
UNR(-1)	3436.099 (2880.36) [1.19294]	0.348992 (0.63511) [0.54950]	1127.194 (910.244) [1.23834]	0.418616 (0.48134) [0.86968]
UNR(-2)	-7751.431 (1960.39) [-3.95403]	-0.030046 (0.43226) [-0.06951]	-569.5558 (619.517) [-0.91935]	-0.929929 (0.32760) [-2.83857]
PCI(-1)	1.536023 (1.89576) [0.81024]	0.000107 (0.00042) [0.25682]	0.714882 (0.59909) [1.19327]	0.000646 (0.00032) [2.04033]
PCI(-2)	3.085970 (1.91959) [1.60762]	-0.000547 (0.00042) [-1.29287]	0.966942 (0.60663) [1.59397]	-0.000353 (0.00032) [-1.10094]
CPI(-1)	-1593.527 (1855.55) [-0.85879]	-0.793010 (0.40914) [-1.93823]	-168.0779 (586.386) [-0.28663]	0.329094 (0.31008) [1.06130]
CPI(-2)	14946.26 (2928.89) [5.10305]	-0.192483 (0.64581) [-0.29805]	1919.384 (925.580) [2.07371]	0.583820 (0.48945) [1.19280]

C	-34729.36	13.80529	-15751.12	4.007205
	(34279.3)	(7.55845)	(10832.9)	(5.72849)
	[-1.01313]	[1.82647]	[-1.45401]	[0.69952]
R-squared	0.997781	0.798533	0.997721	0.934589
Adj. R-squared	0.993343	0.395600	0.993163	0.803767
Sum sq. resids	2.09E+08	10.16818	20886410	5.840604
S.E. equation	7230.870	1.594379	2285.083	1.208367
F-statistic	224.8230	1.981800	218.9095	7.143967
Log likelihood	-126.3044	-16.84924	-111.3290	-13.24545
Akaike AIC	20.81607	3.976806	18.51215	3.422377
Schwarz SC	21.20719	4.367925	18.90327	3.813496
Mean dependent	168080.2	7.238462	57351.31	7.438462
S.D. dependent	88623.26	2.050828	27636.56	2.727801
Determinant resid covariance (dof adj.)		3.94E+13		
Determinant resid covariance		3.53E+11		
Log likelihood	-246.6230			
Akaike information criterion		43.48046		
Schwarz criterion	45.04493			

Source : *Author's Calculations using E-Views 9.0*

SUBSIDY = C(1)*SUBSIDY(-1) + C(2)*SUBSIDY(-2) + C(3)*UNR(-1) + C(4)*UNR(-2) + C(5)*PCI (-1) + C(6)*PCI(-2) + C(7)*CPI(-1) + C(8)*CPI(-2) + C(9)

The model is converted to equation format having P-values.

Dependent Variable: SUBSIDY

Method: Least Squares (Gauss-Newton / Marquardt steps)

Date: 02/03/18 Time: 22:05

Sample (adjusted): 3 15

Included observations: 13 after adjustments

SUBSIDY = C(1)*SUBSIDY(-1) + C(2)*SUBSIDY(-2) + C(3)*UNR(-1) + C(4) *UNR(-2) + C(5)*PCI(-1) + C(6)*PCI(-2) + C(7)*CPI(-1) + C(8)*CPI(-2) + C(9)

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	0.330605	0.332864	0.993214	0.3768
C(2)	-0.968523	0.378733	-2.557273	0.0628
C(3)	3436.099	2880.357	1.192942	0.2988
C(4)	-7751.431	1960.387	-3.954031	0.0168
C(5)	1.536023	1.895757	0.810242	0.4633

C(6)	3.085970	1.919594	1.607616	0.1832
C(7)	-1593.527	1855.548	-0.858790	0.4389
C(8)	14946.26	2928.887	5.103051	0.0070
C(9)	-34729.36	34279.26	-1.013130	0.3683
R-squared	0.997781	Mean dependent var		168080.2
Adjusted R-squared	0.993343	S.D. dependent var		88623.26
S.E. of regression	7230.870	Akaike info criterion		20.81607
Sum squared resid	2.09E+08	Schwarz criterion 21.20719		
Log likelihood	-126.3044	Hannan-Quinn criter.		20.73567
F-statistic	**224.8230**	Durbin-Watson stat		**2.034602**
Prob(F-statistic)	**0.000049**			

C1 here refers to the error correction term and it indicates the adjustment towards equilibrium.

Source: Author's Calculations using E-Views 9.0

LONG TERM CAUSALITY AND SHORT TERM CAUSALITY TEST

We found here that C1 is positive and not significant. And the rule is that if the Coeffient is negative and significant then there is long term causality but here te reverse happens. so the null hypothesis is accepted and we found that there is no long term causality among the variables.

short term causality: Null hypothesis C(3) = C(4) = C(5) = C(6) = C(7) = C(8) = 0.

To test this we have to do Wald test

Wald Test:

Equation: Untitled

Test Statistic	Value	df	Probability
F-statistic	13.80571	(6, 4)	0.0120
Chi-square	82.83427	6	0.0000

Null Hypothesis: C(3)= C(4)= C(5)= C(6)= C(7)= C(8)=0

Null Hypothesis Summary:

Normalized Restriction (= 0)	Value	Std. Err.
C(3)	3436.099	2880.357
C(4)	-7751.431	1960.387
C(5)	1.536023	1.895757
C(6)	3.085970	1.919594
C(7)	-1593.527	1855.548
C(8)	14946.26	2928.887

Source : *Author's Calculations using E-Views 9.0*

Restrictions are linear in coefficients.

from the above wald test it is found that the probability value in both the cases are less that 5 %. So the null hypothesis is rejected meaning that there is short run causality among the independent and dependent variables.

GRANGER CAUSALITY TEST

Granger causality test is applied here between Subsidy, GDP and HDI to figure out the causal relationship among them.

Pairwise Granger Causality Tests

Date: 02/04/18 Time: 01:28

Sample: 1 15

Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
HDI does not Granger Cause GDP	13	2.05910	0.1899
GDP does not Granger Cause HDI	1.21805	0.3453	
SUBSIDY does not Granger Cause GDP	13	0.68710	0.5304
GDP does not Granger Cause SUBSIDY	1.88680	0.2132	
SUBSIDY does not Granger Cause HDI	13	2.92895	0.1111
HDI does not Granger Cause SUBSIDY	2.47167	0.1459	

Source : *Author's Calculations using E-Views 9.0*

This test shows that there is in all the cases the null hypothesis is accepted. Due to high probability value. So Subsidy doen't causes HDI and GDP growth also.

10. CONCLUDING REMARKS

This study was undertaken to evaluate Subsidy and socio economic growth nexus in India through the use of cointegration technique. Likewise, this study also investigated whether there is a causal relationship between the variables. The cointegration results show that a there is no relationship exists between Socio economic variables and the amount of subsidy. Thus it will be worthwhile for the India government and policymakers to implement policies geared towards the subsidy to the poor and needy. It can be said that the poor and needy can,t getting the subsidy adequately. Besides that the Granger Causality test reveals that there is no mutual correlation or causality between the variables in India in the period under review. So govt should rethink the amount of subsidy programme that it declares time to time. Apart from that, our Government and policy makers should concentrate on maintaining uniformity and continuity in policy making govt. after govt. The focal point should be more on qualitative rather than quantitative. Only our study shows the short term relationship among the explained and explanatory variables. but the long term relationship is desirable for a developing country like India.

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