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## KANYASHREE PRAKALPA IN WEST BENGAL — MEETING THE SUSTAINABLE DEVELOPMENT GOAL: A DISTRICT LEVEL ANALYSIS

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### ABSTRACT:

*The United Nation's Sustainable Development Goals try to address the global challenges in relation with poverty, inequality, climate, environmental degradation, prosperity, and peace and justice. The Goals are interconnected and in order to leave no one behind, the UN mandates that we achieve each Goal and target by 2030. In this context Kanyashree Prakalpa in West Bengal, launched in 2013 is a state sponsored conditional cash transfer scheme, targeted to*

*women empowerment through preventing early child marriage and ensuring continuation of education of the girl children. The objective of the scheme has been to eliminate social exclusion, feminization and intergenerational cycles of poverty and facilitate justice to the women to ensure their participation in the economic activities at par with the men. Viewed from this angle the scheme has close approximation towards achievement of sustainable development goals, which are aimed at obtaining a more secure, more resilient, more equal world by 2030.*

*Thus this article attempts to make an appraisal of the scheme in the state which is in the vogue for last five years. On the basis of secondary data, and using mainly descriptive statistics and use of Principal Component analysis we have found that the performance of the scheme during last five years have been towards attaining its goal. We have also found that there exist wide variations in regard to performance of the different districts over the years. Further, we have found that over time the variations have been declining.*

**KEYWORDS:** *Kanyashree Prakalpa, Scheme, Sustainable Development Goals, Districts, Performance.*

### I. INTRODUCTION:

Since the time immemorial women in India have been regarded as 'lakshmi'. They are also treated as 'shakti' i.e. source of inspiration. In Vedic period women were placed at a very high status in the society and there was a philosophy that women should be brought and

educated with same care at par with men (Das, 2014). However there was deterioration in the status of women since the medieval age. In British colonial period Raja Rammohan Roy and Ishwar Chandra Vidyasagar made concerted efforts for women empowerment. After independence there are several provisions in the Constitution of India in general regarding protection of rights of women and part-III of the Constitution under Article 12 in particular,

which confers right to equality irrespective of sex, caste, creed etc (Basu, 2005). The Prevention of Child Marriage Act, 2006 was enacted in the Indian Parliament primarily to safeguard Indian women from social atrocities. Despite all these efforts Indian women remained as a vulnerable class in our society (Mir, 2018).

West Bengal is no exception to this tragedy. In 2007-08, the state ranked fifth highest in the country in terms of child marriage and the problem was

more acute in rural areas than that in urban areas. The Census of India, 2011 reveals that the percentage of child marriage in the state (40.24%) was above the national average (30.21%) (Ghara & Roy, 2017). It is also fact that premature marriage of girls brings lot of problems like high drop out of girl students, maternal and child ill health, possibility of women trafficking and all sorts of problems leading to financially and socially disempowerment of women (Adhikary, 2017). Considering the gravity of the situation the Government of West Bengal introduced the Kannayashree Prakalpa (herein after called scheme) with effect from 1<sup>st</sup> October, 2013. Though the scheme is unique in the state in terms of women empowerment, previously there were few initiatives in India in some other states towards the same end. The schemes of 'Bagyalakshmi' in Karnataka, 'Beti hai Anmul' in Hariyana, 'Bangaru Thali' in Andhra Pradesh may be cited as related schemes (Sen & Dutta, 2018).

The scheme is a state sponsored conditional cash transfer scheme (CCT) which has two components viz.K1 and K2 from its inception. The former is a cash benefit to be paid annually to unmarried girl child, aged between 13 to 18 years and enrolled in VIII to XII standards and later is a onetime cash benefit to be paid to unmarried girl child, who are aged between 18 to 19 years and pursuing education, technical or vocational training. In both the cases annual family income of the girl child must not exceed Rs.1,20,000 except in case of orphans, girls with special needs (GOWB, 2014).Very recently another new component namely K3 has been introduced according to which all K2 beneficiaries, who have enrolled herself in any post graduate courses in any University in West Bengal in regular mode and have obtained at least 45% marks at undergraduate level are entitled to have monthly cash benefit under Swami Vivekananda Merit Cum Means Scholarship (GOWB, 2017).The objective of the scheme is to ensure education of adolescent girl children and prevent their marriage before attaining the age of 18 years so as to create a favourable environment for ensuring their participation and meaningful contribution to the society(GOWB, 2016). The scheme has received wide spread recognition both at national and international levels. This scheme has been awarded by the United Nations in Netherlands in the year 2017 being the first in Asia-Pacific group under the category 'reaching the poorest and most vulnerable through inclusive services and participation'(Sen & Dutta,2018). The scheme has close approximation with sustainable development goals, which is a broad road map set by UN community in order to build a more prosperous, more equal and more secured World by 2030 (Ghara, 2018, Adhikari, 2017,GOWB,2018b, Mir, 2018).

Thus, an attempt has been made in this article to highlight the performance of the scheme in the different districts in West Bengal<sup>1</sup>. The article is divided into six sections. In section II we have reviewed related literature to show the research gap on the issue, our objective and methodology have been discussed in section III, the inter linkage between the Kannayashree Prakalpa with the Sustainable Development Goals has been highlighted in section IV, our findings, analysis of result and discussion on the same have been presented in the chapter V and finally in section VI we have made some concluding remarks.

## II. REVIEW OF EXISTING LITERATURE AND RESEARCH GAP:

Since its inception the scheme has already passed five years. During that period one Annual Report (2016) and two rapid assessment reports (2014 & 2015) have been published by the Government of West Bengal. All those reports have highlighted a very positive impact of the scheme on the prevention of child marriage and improvement of education of adolescent girl children in West Bengal.

Sen (2016) on the basis of primary data collected by means of socio-economic survey at a slum area at Barasat Municipality, North 24 Parganas found that the scheme has potentials to promote social power and self-esteem of girls. Ghara & Roy (2017) observed that the scheme has definitely minimized the tendency of girl students to drop out and has also positive impact on the prevention of child marriage; however there is evidence of asymmetry in performance among the districts. They used secondary data for that purpose. Adhikari (2017) on the basis of secondary data also found that during

<sup>1</sup> Details of objectives have been given in section-III.

the period 2013-15 the Kanyashree scheme generated unprecedented enthusiasm and goodwill and has become a household word in the state. Sen & Dutta (2018) on the basis of primary data collected from selected districts of West Bengal observed that being the unique CCT scheme in the state, it has attempted to bring the social change. They also argued the scheme will definitely ensure socio-economic transformation of girl children, who will be brought under the safety net of the same and for that reason they also suggested to bring more and more girls under its safety net. However, Saha (2015) on the basis of secondary data observed that despite lot of possibilities two years' experience of the same shows some drawbacks, which are needed to be corrected for the interest of achievement of the goal of the scheme. Mir (2018) has also observed that the effect of Kanyashree Prakalpa is very deep-rooted and it has become the boon of the adolescent girls in the state. He used secondary data for that purpose. Again, Ghara (2018) on the basis of secondary data has observed that though Kanyashree Prakalpa in West Bengal has minimized the drop out of girl students and premature marriage of girls, in the practice all the adolescent girls in the state are yet to be sensitized about the scheme and as per his findings about 48-49% have been sensitized in the state as whole.

From above literature, we find that most of the studies have dealt with the possible impact of the scheme on the drop out of girl students as well as prevention of their early marriage. Very few of those studies have dealt with analysis of the performance of the different districts of the state and finding out whether there are any regional disparities about the same.

### III. OBJECTIVES AND METHODOLOGY :

In the light of the research gap, given in the preceding section we have tried to address the following research questions:

- a) Whether there is any variation in the performance of the different districts in West Bengal over the years under our study?
- b) What is the state of association of relative performance of the districts over the years under our study?
- c) Whether there are any regional disparities in terms of variation in performance and relative performance of the districts during the periods of our study?

This paper is based on secondary data only. For this purpose we have used different published reports of the National and International Organization about the scheme and also different scholarly articles published by different Indian authors. For the purpose of collecting necessary data relating to performance of the scheme during the period from 2013-14 to 2017-18 we have used status reports of the scheme at the official website of Kanyashree Prakalpa maintained by the Department of Women and Child Welfare, Government of West Bengal. On having the necessary data relating to performance of the scheme in terms of its two components viz. K1 and K2<sup>2</sup> during last five years we have calculated the performance of two components by comparing number of the applications sanctioned and targets<sup>3</sup> in each of the years in all the districts of the state. For the purpose of analysis of data we have used different statistical tools viz. arithmetic mean, standard deviation, coefficient of variation, Spearman's rank correlation coefficient. For the purpose of final ranking of the districts we have used Principal Component Analysis (PCA). For testing the significance of results we have used Fishers's 'paired t' test and Spearman's rank correlation test.

### IV. Inter Linkage between Sustainable Development Goals and Kanyashree Prakalpa in West Bengal:

The 'Sustainable Development Goals (SDGs)' aim to build a more prosperous, more equal and more secured World by 2030. The 2030 Agenda and its 17 SDGs with 169 targets, adopted in 2015 by 193 countries, provide a coherent and holistic framework for addressing the problems that have

<sup>2</sup> Though very recently one new component K3 has been introduced, in this article we have concentrated within K1 and K2, since the last component is very recent in origin and necessary data relating to its performance is yet to be published.

<sup>3</sup> The relation between application sanctioned and targets in each year is the indicator of performance.

endured through the past decades and reflects our evolving understanding of the social, economic and environmental linkages that define our lives. According to their definition, Sustainable Development is a combination of five Ps, contains a plan of action for people, planet, prosperity, peace and partnership (United Nations, 2015). It recognizes that eradication poverty in all of its forms and dimensions including extreme poverty is the greatest global challenge and an indispensable requirement for Sustainable Development. India has a fundamental role to play in shaping the SDGs and the country's national development agenda is mirrored in the SDGs (KPMG, 2017).

Kanyashree Prakalpa in West Bengal is one of such innovative measures, designed to ensure social and economic empowerment of women towards achievement of sustainable development. Objectives of the scheme as reflected in its preamble show its close approximation with the sustainable development goals (GOWB, 2016). On analyzing different features of the scheme it may be found that the scheme has inter linkage with as many as nine sustainable development goals and direct linkage with SDG indicator 5.3, which pledges to eliminate all harmful practices, such as child, early and forced marriage and female genital mutilation (GOWB, 2018). The inter linkage between different features of the scheme and sustainable development goals may be highlighted in table 1:

**Table 1: Inter linkage between Sustainable Development Goals and Kanyashree Prakalpa**

Sl.no.	Features of Kanyashree Prakalpa	Sustainable Development Goals	
1.	Prevent feminization of poverty	SDG-1	End poverty in all its forms everywhere.
2.	Prevent teenage pregnancies, mother and child ill health.	SDG-3	Ensure healthy lives and promote well being for all at all ages.
3.	Prevent early discontinuation of education of girl children.	SDG-4	Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
4.	Prevent discriminatory norms around the girls' value, sexuality and role in the society.	SDG-5	Achieve gender equality and empower all women and girls
5.	Break the cycle of intergenerational poverty	SDG-8	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.
6.	Conditional Cash Transfer and convergent implementation platform.	SDG-9	Built resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
7.	Prevent child marriage so as to bridge the gap between genders, communities, states and countries.	SDG-10	Reduce inequality within and amongst countries
8.	Ensure social inclusion and provide social protection to the adolescent girls.	SDG-16	Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.
9.	Convergent implementation & monitoring amongst 14 departments and sharing of knowledge as well as best practices at national and international level.	SDG-17	Strengthen the means of implementation and revitalize the global partnership for sustainable development.

Source: KPMG (2017), Niti Aayog (2018), GOWB (2018b).

Table-1 clearly reveals that the goals of the Kanyashree Prakalpa are equivalent to certain sustainable development goals of the UNO.

## V. Major Findings, Analysis of the Result and Discussion:

In our last section it has been revealed that as an innovative measure in the field of women empowerment the Kanayshree Prakalpa in West Bengal has lot of potentials to achieve Sustainable Development Goals. Now in this section we proceed to highlight our empirical findings collected from secondary data, analysis of the result of the same and lastly our discussion about the same.

### a) Major Findings:

At the first stage we have attempted to compare the performance of the districts<sup>4</sup> during the last five years on the parameter mentioned in our preceding section in terms two components of the scheme i.e. K1 and K2. The relative ranks of the districts in achievement of performance<sup>5</sup> in terms of K1 component in last five years may be discerned from table 2

**Table 2: Relative position of the districts in achievement of performance for K1 component from 2013-14 to 2017-18**

Sl no.	District	R134	R145	R156	R167	R178
1	Bankura	14	5	14	6	15
2	Bardhaman	4	19	9	14	13
3	Birbhum	5	12	8	9	7
4	Coochbehar	19	14	7	16	9
5	Dakshin Dinajpur	15	20	11	19	17
6	Darjeeling	6	3	19	20	4
7	Hooghly	20	4	15	3	14
8	Howrah	8	6	18	1	20
9	Jalpaiguri	11	18	16	8	16
10	Kolkata	1	11	2	4	2
11	Malda	18	2	10	5	1
12	Murshidabad	2	8	3	18	12
13	N 24 Parganas	9	7	5	12	18
14	Nadia	10	13	12	17	19
15	Paschim Medinipur	12	16	6	10	11
16	Purba Medinipur	16	10	17	15	10
17	Purulia	7	9	13	2	3
18	S 24 Parganas	13	1	1	7	5
19	Siliguri	3	17	20	13	8
20	Uttar Dinajpur	17	15	4	11	6

Note: R134, R145, R156, R167 and R178 indicate the ranks of the districts in 2013-14, 2014-15, 2015-16,

2016-17 and 2017-18 respectively in terms of K1 component.

Source: Government of West Bengal (2018a).

From table 2 it may be revealed that in terms of K1 component best performing districts for the year 2013-14 were Kolkata, Murshidabad, Siliguri, Bardhaman, Birbhum, Darjeeling, Purulia, Howrah, North 24 Parganas, Nadia and rests 10 districts were worst performing districts. Again in 2014-15 best performing districts were South 24 Parganas, Malda, Darjeeling, Hooghly, Bankura, Howrah, North 24 Parganas, Murshidabad, Purulia and Purba Medinipur and rests 10 districts were worst performing

<sup>4</sup> We have merged the districts Purba Bardhaman and Paschim Bardhaman into one district Bardhaman, Alipurduar with Jalpaiguri, Kalimpang with Darjeeling and Jhargram with Paschim Medinipur for ensuring better comparison from 2013-14 to 2017-18.

<sup>5</sup> Detail performance of the districts in terms of K1 component are given annexure-I.

districts. Thus out of 10 best performing districts in the year 2013-14 only five districts namely Murshidabad, Darjeeling, Purulia, Howrah and North 24 Parganas could maintain their performance in the subsequent year and conversely out of 10 worst performing districts in the year 2013-14 five districts namely South 24 Parganas, Malda, Hooghly, Bankura and Purba Medinipur improved their performance in the subsequent year and thus came among the best performing districts. Similarly in the year 2015-16 10 best performing districts were South 24 Parganas, Kolkata, Murshidabad, Uttar Dinajpur, North 24 Parganas, Paschim Medinipur, Coochbehar, Birbhum, Bardhaman and Malda. It is interesting to note that in this year three districts namely Uttar Dinajpur, Paschim Medinipur and Coochbehar, which were among the worst performing districts during last two years, improved their performance and hence came among the best performing districts. Similarly three districts namely Purulia, Howrah and Darjeeling failed to maintain their track of performance in last two years and came among the worst performing districts in the year 2015-16. Again best performing districts in the year 2016-17 were Howrah, Purulia, Hooghly, Kolkata, Malda, Bankura, South 24 Parganas, Jalpaiguri, Birbhum, Paschim Medinipur and the same in the year 2017-18 were Malda, Kolkata, Purulia, Darjeeling, South 24 Parganas, Uttar Dinajpur, Birbhum, Siliguri, Coochbehar, Purba Medinipur. Thus from our finding it may be indicated that all the districts failed to maintain their track of performance throughout the period of our study and it may be worth mentioning here that only four districts namely Kolkata, Purulia, South 24 Parganas and Birbhum were able to maintain their good performance for maximum four years.

Now we proceed to highlight our findings about the performance of the districts over the years in terms of second component of the scheme i.e. K2. Table 3 shows the relative position<sup>6</sup> of the districts during last five years in terms of K2 component:

**Table:3 Relative position of the districts in achievement of performance in terms of K2 component from 2013-14 to 2017-18:**

Sl No.	District	R234	R245	R256	R267	R278
1	Bankura	14	19	6	9	11
2	Bardhaman	15	17	7	18	20
3	Birbhum	2	1	5	19	14
4	Coochbehar	10	10	20	13	5
5	Dakshin Dinajpur	8	9	19	16	19
6	Darjeeling	20	20	13	15	1
7	Hooghly	13	16	14	5	18
8	Howrah	6	4	12	3	16
9	Jalpaiguri	7	6	15	2	6
10	Kolkata	1	13	2	1	2
11	Malda	18	3	9	8	9
12	Murshidabad	3	5	3	6	12
13	N 24 Parganas	4	2	1	11	15
14	Nadia	9	12	11	10	7
15	Paschim Medinipur	19	14	4	17	13
16	Purba Medinipur	12	15	16	20	17
17	Purulia	5	8	17	7	4
18	S 24 Parganas	16	11	8	12	8
19	Siliguri	11	18	18	4	3
20	Uttar Dinajpur	17	7	10	14	10

Note: R234, R245, R256, R267 and R278 indicate the ranks of the districts in 2013-14, 2014-15, 2015-16,

2016-17 and 2017-18 respectively in terms of K2 component.

Source: Government of West Bengal (2018a)

<sup>6</sup> Detail performance of the districts in terms of K2 component is given in annexure II.

From table 3 it may be revealed that in the initial year i.e.2013-14 best performing districts in terms of K2 component were Kolkata, Birbhum, Murshidabad, North 24 Parganas, Purulia,Howrah, Jalpaiguri,Dakshin Dinajpur, Nadia and Coochbehar.In the subsequent year i.e.2014-15 the best performing districts were Birbhum, North 24 Parganas, Malda, Howrah, Murshidabad,Jalpaiguri, Uttar Dinajpur,Purulia,Dakshin Dinajpur,Coochbehar.It is interesting to note here out of 10 best performing districts in the year 2013-14 eight districts came amongst the best performing districts in the subsequent year , which is very encouraging and only two districts namely Kolkata and Nadia could not maintain their track of performance and in that place two districts namely Malda and Uttar Dinajpur, which were worst performing district in the year 2013-14 came amongst the best performing districts in the year 2014-15. It also deserves our special attention that the relative position of the district Coochbehar in the year 2014-15 were at par with the position in 2013-14. Again the best performing districts in the year 2015-16 were North 24 Parganas, Kolkata, Murshidabad, Paschim Medinipur, Birbhum,Bankura, Bardhaman, South 24 Parganas,Malda, Uttar Dinajpur.The relative position of the districts in that year indicates that only four districts namely North 24 Parganas, Murshidabad,Birbhum and Malda were able maintain their relative performance of last two years in the year 2015-16 and it reveals that four districts namely Paschim Medinipur,Bankura, Bardhaman and South 24 Parganas , which were beyond the best performing districts in last two years came among the best performing districts in 3<sup>rd</sup> year. Similarly best performing districts in the year 2016-17 were Kolkata, Jalpaiguri,Howrah, Siliguri,Hooghly, Murshidabad, Purulia,Malda, Bankura, Nadia and the same in the year 2017-18 were Darjeeling, Kolkata, Siliguri, Purulia, Coochbehar,Jalpaiguri, Nadia,South 24 Parganas, Malda and Uttar Dinajpur.Thus it is clear that like K1 component in K2 component all the districts in the state could not maintain their relative performance during the periods of our study and it should also be mentioned here that out of 20 districts only six districts namely Kolkata,Purulia,Jalpaiguri,Malda, Murshidabad and Howrah could maintain their track of performance for maximum four years and one district namely Bardhaman has come among the best performing districts in only one year i.e.2015-16.

Thus our findings show that relative positions of the districts were varied over the years in terms of both K1 and K2 components. Now at the last stage of our findings we proceed to highlight the relative position of the districts combining their performance<sup>7</sup> in terms of K1 and K2 components. The combined performance of the districts during last five years may be discerned from table 4.

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<sup>7</sup> Detail of over performance of the districts is given in annexure-III.

**Table 4: Relative position of the districts in achievement of the overall performance of the scheme during 2013-14 to 2017-18**

Sl. No	District	R34	R45	R56	R67	R78
1	Bankura	12	5	11	6	16
2	Bardhaman	5	20	8	17	13
3	Birbhum	3	12	7	12	9
4	Coochbehar	19	13	9	16	8
5	Dakshin Dinajpur	15	19	15	19	18
6	Darjeeling	11	7	18	20	2
7	Hooghly	20	3	14	4	15
8	Howrah	7	4	17	1	20
9	Jalpaiguri	9	17	16	5	14
10	Kolkata	1	10	2	2	3
11	Malda	18	2	10	7	1
12	Murshidabad	2	8	3	14	12
13	N 24 Parganas	8	6	4	11	17
14	Nadia	10	15	12	15	19
15	Paschim Medinipur	14	16	6	10	11
16	Purba Medinipur	16	11	19	18	10
17	Purulia	6	9	13	3	4
18	S 24 Parganas	13	1	1	8	5
19	Siliguri	4	18	20	9	6
20	Uttar Dinajpur	17	14	5	13	7

Note: R34, R45, R56, R67 and R78 indicate the combined ranks of the districts in 2013-14, 2014-15, 2015-16, 2016-17 and 2017-18 respectively.

Source: Government of West Bengal (2018a).

Table 4 highlights that in the initial year best performing districts in terms of overall performance of the scheme were Kolkata, Murshidabad, Birbhum, Siliguri, Bardhaman, Purulia, Howrah, North 24 Parganas, Jalpaiguri and Nadia. In the subsequent year i.e. in 2014-15 the best performing districts were South 24 Parganas, Malda, Hooghly, Howrah, Bankura, North 24 Parganas, Darjeeling, Murshidabad, Purulia and Kolkata. Again in the year 2015-16 the best performing districts were South 24 Parganas, Kolkata, Murshidabad, North 24 Parganas, Uttar Dinajpur, Paschim Medinipur, Birbhum, Bardhaman, Coochbehar and Malda. It is interesting to note that out of 20 districts only two districts Murshidabad and North 24 Parganas were able to come among the best performing districts in last three years. Finally in the year 2016-17 the best performing districts were Howrah, Kolkata, Purulia, Hooghly, Jalpaiguri, Bankura, Malda, South 24 Parganas, Siliguri, Paschim Medinipur and the same in the year 2017-18 were Malda, Darjeeling, Kolkata, Purulia, South 24 Parganas, Siliguri, Uttar Dinajpur, Coochbehar, Birbhum and Purba Medinipur. The relative position of the districts over the years in achievement of combined performance shows that there was wide case of variations in the relative position of the districts and like K1 as well as K2 components in terms of overall performance all the districts also failed to maintain in track of records during the period of our study. It also deserves special attention that only three districts namely Kolkata, Purulia and South 24 Parganas came among the best performing districts for maximum four years and one district namely Purba Medinipur came among the same only for one year i.e. 2017-18.

#### **b) ANALYSIS OF RESULT AND DISCUSSION:**

We have analyzed the result of our findings in two stages. At the first stage we have analyzed the result of all the 20 districts of our study and at the later stage we have analyzed the same by dividing the districts into two parts viz. best performing districts and worst performing districts.



At each of stages of analysis we have also considered the trends of the performance amongst the districts as well as periods of our study.

At the first stage we have tried to analyze the variation in the performance among the districts during last five years in terms of overall achievement of the scheme by applying coefficient of variation and the result of the same may be highlighted in table 5 and significance of the variation of the same over the years may be highlighted in table 6:

**Table 5: Mean S.D. and Coefficient of variation in overall performance of the districts during last five years:**

Year	Mean	S.D.	C.V
2013-14	127.37	39.24	30.81
2014-15	109.57	8.81	8.04
2015-16	118.39	12.29	10.38
2016-17	99.4	5.95	5.99
2017-18	108.43	8.69	8.01

Source: Government of West Bengal (2018a)

**Table 6: Fisher’s ‘paired t’ test result for comparison of variances of among the districts over last five years**

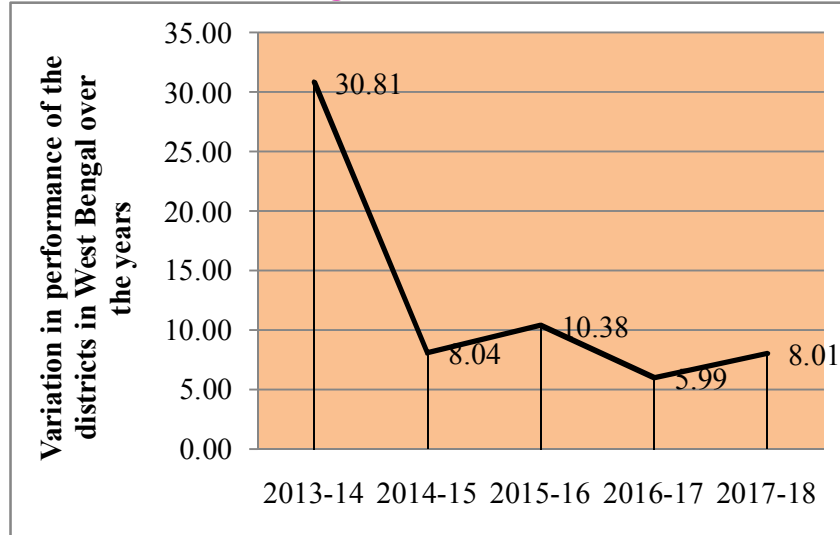
H <sub>0</sub>	H <sub>1</sub>	N	DF	Calculated 't' value	Pr(T < t)	Pr( T  >  t )	Pr(T > t)
$\mu_2 = \mu_1$	$\mu_2 \neq \mu_1$	20	19	-1.8911	0.0370	0.0740	0.9630
$\mu_3 = \mu_2$	$\mu_3 \neq \mu_2$	20	19	3.2191	0.9977	0.0045	0.0023
$\mu_4 = \mu_3$	$\mu_4 \neq \mu_3$	20	19	-6.7039	0.0000	0.0000	1.0000
$\mu_5 = \mu_4$	$\mu_5 \neq \mu_4$	20	19	3.6470	0.9991	0.0017	0.0009

Note:  $\mu_1, \mu_2, \mu_3, \mu_4, \mu_5$  indicate means for the year 2013-14, 2014-15, 2015-16, 2016-17, 2017-18 respectively. N indicates Number of observations, DF indicates degrees of freedom. Pr (T < t) indicates left tailed test, Pr (|T| > |t|) indicates both tailed test, Pr (T > t) indicates right tailed test.

Source: Government of West Bengal (2018a)

Table 6 shows that in the initial year the degree of variation among the districts was highest and in the subsequent year there was improvement in the situation, which is very much encouraging. But in the following year i.e. 2015-16 we have again experienced the opposite situation and the variation was started to be increased. However the same was reached neither at par nor near the initial years. The same trends were also found to be continued in next two years. Moreover table 6 indicates that all the differences are statistically significant at 5% level of significance. The trend of the variation among the districts over the years may be clearly understood from the figure 1:

**Figure 1: Trend of variation among the districts in overall performance during 2013-14 to 2017-18**



Source: Government of West Bengal (2018a)

After analyzing the trend of variation among the districts in overall performance over the years we now proceed to analyze our findings in terms of the relative position of the districts over the years. For the purpose of analysis we have applied Spearman's Rank Correlation Coefficient the result of the same is presented in Table 7:

**Table 7: Rank correlation coefficient values of relative position of the districts in overall performance during 2013-14 to 2017-18 and significance level**

Variabes	Value of R	DF	Significance level
R34 and R45	-0.1835	38	No
R45 and R56	0.188	38	No
R56 and R67	0.0857	38	No
R67 and R78	0.0301	38	No

Note: R34, R45, R56, R67 and R78 indicate the combined ranks of the districts in 2013-14, 2014-15, 2015-16, 2016-17 and 2017-18 respectively. R indicates values of Rank Correlation Coefficient. DF indicates degree of freedom

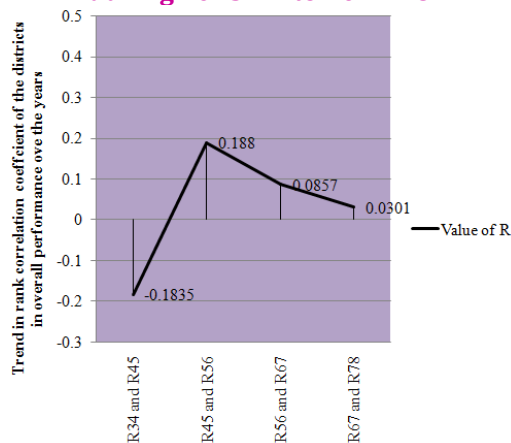
Source: Government of West Bengal (2018a)

The results obtained in table 7 shows that at the initial years the degree association in the relative position of the districts were negative i.e. there was high inconsistency between the two. However said negative association was found to be statistically insignificant. Afterwards the position was slightly improved and the degree of the association was started to be positive. That implies that though at the initial years there was high inconsistency in the relative position of the districts, at the later stage the positive association was started to be improved and continued till the end but at decreasing trend. Again all the positive associations were also found to be statistically insignificant. The

trend in the association of the relative position of the districts in overall performance of the scheme may be better understood from Figure 2.

From figure 2 it may be implied that at the first stage there was a trend of improvement in the consistency and at the latter stage such improvement was continued however, however a marginal decreasing trend was also found.

**Figure 2: Trend in association in the relative position of the districts in overall performance during 2013-14 to 2017-18**



Source: Government of West Bengal (2018a).

At the second stage we have concentrated our analysis among the two categories of the districts one is best performing districts and another is worst performing districts. For the purpose of classification of the districts in those two categories we have calculated the ranks of the districts in terms of combined performance of the district by taking the overall performance of the districts during the periods of our study. For the purpose of calculation of the said ranks of the districts we have calculated combined scores of the each of the districts and for arriving at the combined scores we have developed a model with the help of Principal Component Analysis, which may be formed by the following equation:

$$\text{Score} = 0.805 R_{34} + 0.312 R_{45} + 0.200 R_{56} + 0.082 R_{67} + 0.26 R_{78}$$

Where 0.805, 0.312, 0.2, 0.082, and 0.26 are the linear regression coefficients for the year 2013-14, 2014-15, 2015-16, 2016-17 and 2017-18 respectively. Now on the basis of the above score we have found the relative position of the districts, which may be presented in Table 8:

**Table 8: Ranks of the districts in combined performance over the last five years**

Sl. No	District	Score	Rank
1	Bankura	18.11	12
2	Bardhaman	16.66	9
3	Birbhum	10.90	3
4	Coochbehar	24.55	19
5	Dakshin Dinajpur	27.27	20
6	Darjeeling	16.79	10
7	Hooghly	24.09	17
8	Howrah	15.61	8
9	Jalpaiguri	19.82	13
10	Kolkata	5.27	1
11	Malda	17.94	11
12	Murshidabad	9.00	2
13	N 24 Parganas	14.48	6
14	Nadia	21.34	15
15	Paschim Medinipur	21.16	14
16	Purba Medinipur	24.20	18
17	Purulia	11.53	4
18	S 24 Parganas	12.94	5
19	Siliguri	15.14	7
20	Uttar Dinajpur	21.94	16

Source: Government of West Bengal (2018a)

From the aforesaid rankings we have grouped 1<sup>st</sup> ten districts in terms of their ranks into best performing districts and another ten districts into another category i.e. worst performing districts. The best performing districts are Kolkata, Murshidabad, Birbhum, Purulia, South and North 24 Parganas, Siliguri, Howrah, Bardhaman, Darjeeling. The worst performing districts were Malda, Bankura, Jalpaiguri, Paschim Medinipur, Nadia, Uttar Dinajpur, Hooghly, Purba Medinipur, Coochbehar and Dakshin Dinajpur. It is interesting to note that most of the best performing districts are urban concentrated districts and most of the worst performing districts are rural concentrated districts.

Firstly we proceed to analysis the degree of variation among best performing and worst performing districts in terms of level of performance of the scheme with the help of coefficient of variation and significance of the same was tested by applying Fisher's 'paired t' test. The arithmetic mean, S.D. and coefficient of variation of both the categories of the districts are highlighted in table 9 and their significance level is shown in Table 10:

**Table 9: Mean, S.D. Coefficient of variation of level performance of best and worst performing districts during last five years**

Year	Best Districts			Worst Districts		
	Mean	S.D.	C.V	Mean	S.D.	C.V
2013-14	154.58	37	23.94	100.15	15.33	15.31
2014-15	110.62	9.32	8.43	108.52	8.63	7.95
2015-16	122.12	15.64	12.81	114.65	6.59	5.75
2016-17	100.36	7.49	7.46	98.45	4.1	4.16
2017-18	109.17	8.13	7.45	107.68	9.6	8.92

Source: Government of West Bengal (2018a)

**Table 10: Fisher's 'paired t' test result for comparison of variances among the best and worst performing districts over last five years**

H <sub>0</sub>	H <sub>1</sub>	N	DF	Calculated 't' value	Pr(T < t)	Pr( T  >  t )	Pr(T > t)
$\mu_{b2} = \mu_{b1}$	$\mu_{b2} \neq \mu_{b1}$	20	19	-3.3061	0.0046	0.0091	0.9954
$\mu_{b3} = \mu_{b2}$	$\mu_{b3} \neq \mu_{b2}$	20	19	2.7708	0.9891	0.0217	0.0109
$\mu_{b4} = \mu_{b3}$	$\mu_{b4} \neq \mu_{b3}$	20	19	-4.2295	0.0011	0.0022	0.9989
$\mu_{b5} = \mu_{b4}$	$\mu_{b5} \neq \mu_{b4}$	20	19	2.1956	0.9721	0.0557	0.0279
$\mu_{w2} = \mu_{w1}$	$\mu_{w2} \neq \mu_{w1}$	20	19	1.2475	0.8781	0.2437	0.1219
$\mu_{w3} = \mu_{w2}$	$\mu_{w3} \neq \mu_{w2}$	20	19	1.7112	0.9394	0.1212	0.0606
$\mu_{w4} = \mu_{w3}$	$\mu_{w4} \neq \mu_{w3}$	20	19	-6.8075	0.0000	0.0001	1.0000
$\mu_{w5} = \mu_{w4}$	$\mu_{w5} \neq \mu_{w4}$	20	19	2.9619	0.9920	0.0159	0.0080

Note:  $\mu_{b1}$ ,  $\mu_{b2}$ ,  $\mu_{b3}$ ,  $\mu_{b4}$ ,  $\mu_{b5}$  indicate means of best performing districts for the year 2013-14, 2014-15, 2015-16, 2016-17, 2017-18 respectively.  $\mu_{w1}$ ,  $\mu_{w2}$ ,  $\mu_{w3}$ ,  $\mu_{w4}$ ,  $\mu_{w5}$  indicate means of worst performing districts for the year 2013-14, 2014-15, 2015-16, 2016-17, 2017-18 respectively. N indicates number of observations, DF indicates degrees of freedom. Pr (T < t) indicates left tailed test, Pr(|T| > |t|) indicates both tailed test, Pr(T > t) indicates right tailed test.

Source: Government of West Bengal (2018a).

The statistical results, shown in table 9 indicate that in the initial year in both categories of districts variation among the districts in terms of performance was highest. However the same was greater in best performing districts than that in worst performing districts. Afterwards in both cases there was improvement in situation and such improvement is statistically significant in case of best performing districts, but not in case of worst performing districts as may be revealed from table 10. In third year again there was statistically significant increase in the same in case of best performing districts, but the situation was not reached neither at par nor near the initial year. Thus though there was deterioration in the situation that was better than that in the initial year. Again in case of worst performing districts though there was marginal improvement in the situation in the third year, as revealed from table 10 the said improvement was statistically insignificant. In fourth and fifth year in best performing districts there was continuous improvement in situation and the same improvement in 4<sup>th</sup> year was statistically significant and in 5<sup>th</sup> year the same was statistically insignificant. On the hand in case of worst performing districts there was further improvement in situation and such improvement was better than that in best performing districts. Moreover as far as statistical results in table 10 are concerned the said improvement was statistically significant. But in last year there was statistically significant deterioration in the situation and the variation was become greater than that in best performing districts. The trend of variation of two categories of the districts may be also be highlighted in figure 3:

**Figure 3: Comparison of coefficient of variation in best and worst performing districts during last five years:**



Source: Government of West Bengal (2018a)

Figure 3 indicates that in spite of the fact that in both categories of the districts the variations were highest in the initial year, situation was better in worst performing districts. Afterwards there was decreasing tendency in next year, such decrease was more in best performing districts than that in worst performing districts and where as the worst performing districts have been succeeded to maintain the decreasing tendency till fourth year, in best performing increase in the same can be noticed in third year, however the same was lower than that in the initial years. Again in best performing districts the same was started to be decreased from fourth year and continued till the last year. But in worst performing districts the variation was increased in last year and the same has found to be greater than that in best performing districts. Thus we may arrive at the decision that the overall positions of best performing districts in terms of variation among the districts in achievement of performance were marginally better than the worst performing districts.

At the last stage of our analysis of we have tried to compare the degree of association of relative performance of the best as well as worst performing districts during last five years by applying Spearman’s Rank Correlation Test. The result of such test may be highlighted in table 11.

**Table 11: Comparison of Rank Correlation Coefficient of relative performance of best and worst performing districts during last five years**

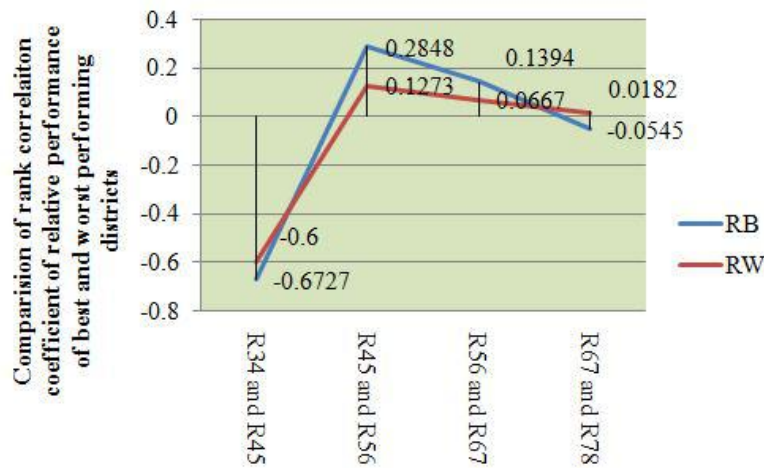
Variables	Best districts			Worst districts		
	RB	DF	Significance level	RW	DF	Significance level
R34 and R45	-0.6727	18	5%	-0.6	18	No
R45 and R56	0.2848	18	No	0.1273	18	No
R56 and R67	0.1394	18	No	0.0667	18	No
R67 and R78	-0.0545	18	No	0.0182	18	No

Note: RB indicates Rank Correlation Coefficients of best performing districts, RW indicates Rank Correlation Coefficients of worst performing districts, R34, R45,R56, R67 and R78 indicate the combined ranks of the districts in 2013-14,2014-15,2015-16, 2016-17 and 2017-18 respectively. DF indicates degree of freedom.

Source: Government of West Bengal (2018a).

Statistical results, given table 11 depict that in best performing districts degree of inconsistency in relative performance among the districts was highest in the initial years and such inconsistency was statistically significant at 5% level of significance. Afterwards improvement in situation may be noticed on the ground that the rank correlation coefficient value reached to positive. But situation was deteriorated in next year and continued till last year as the value of rank correlation coefficient reached at negative. However it may also be revealed from the table that except in case of initial two years all the rank correlation coefficients were statistically insignificant. On the other hand table 11 also depicts that in worst performing districts in the initial years there was high inconsistency in the relative performance of the districts like the best performance districts and such inconsistency was highest within the periods of our study. At the same time it is also revealed that inconsistency in the worst performing districts was lower than that of best performing districts and also that was not statistically significant. Like best performing districts in this case there was improvement in situation in later years but not at par with the former group of the districts. There was further deterioration in the situation in the later years and continued till the end of last year. It should be worth mentioning here that degree of association between third and fourth year was marginally inferior to that in best performing districts and between fourth and fifth year the situation was marginally better than that in best performing district. However all the rank correlation coefficients were statistically insignificant. Thus at the middle of the periods under our study the situation of the best performing districts was better than that in worst performing districts and in the initial as well last stage reverse situation may be noticed. The comparison trends in rank correlation coefficients of best and worst performing district may be better understood from the figure 4:

**Figure 4: Comparison of trends in Rank Correlation Coefficients of best and worst performing districts during last five years**



Note: RB indicates Rank Correlation Coefficients of best performing districts, RW indicates Rank Correlation Coefficients of worst performing districts.

Source: Government of West Bengal(2018a)

Our findings show that in most of the districts in West Bengal performance of the scheme were more than 100% and the same in the state as a whole was more than 100% except in the year 2016-17<sup>8</sup>. But at the same time it may also be revealed from our analysis of result that there was wide case of variation in performance amongst the districts and in the initial year the same was highest. Again in terms of relative performance of the districts over the years same situation may also be noticed. Further it may be revealed that though at the initial years the variation of performance in relative performance

<sup>8</sup> Op.sit.

among the districts, which have been identified as best performing districts as per our chosen parameter was highest and after wards there was improvement in situation and as a whole the situation in best performing districts were marginally better than that in worst performing districts though most of the cases the results obtained were found to be statistically insignificant. The reason behind such controversy as may be identified that the most of the districts, which we have been chosen on the basis of our parameter are urban concentrated districts and are situated in and about state capital. This urban location seems to be favourable to have more access to the information and consciousness among the beneficiaries resulted in marginally better position in terms of variation in performance. On the other hand it is also fact that in some phases of our study the situation of worst performing districts was found to better than that in best performing districts. This seems to be the result of existence of few remote and rural concentrated districts like Purulia and Darjeeling within the best performing districts and existence of very few urban concentrated districts like Hooghly, Nadia within the worst performing districts. Thus as our review of literature suggests that geographical location of the districts matters in terms of consistency in performance of the scheme (Ghara & Roy, 2017), same trend in reverse order has been found in our study. Hence we may arrive at the inference that degree of variation in the performance of the scheme in the state is the function of nearness of the districts to the state capital.

## VI. CONCLUDING REMARKS:

Our study confirms that the scheme has lot potentials to achieve sustainable development goals. It is meant for achieving a more resilient, more prosperous, more equal and secured world by 2030. Since the scheme is aimed to eliminate feminization of poverty, inequalities between boys and girls, protection of girls from vicious circles of ill health arising out of premature marriage it may be identified as one of the most important agenda for sustainable development goals. At the same time removal of all types of disparities is the necessary precondition for achievement of sustainable development goals. So far our study is concerned it may be asserted that the performance of the districts during last five years since its inception are not consistent and also there exists variations among the districts during the period of our study. Viewed from this angle effectiveness of the scheme in the state is yet to be reached at the optimum level. Again the performance of the districts in most of the cases and for the state as whole were found to be more than hundred percent. Apparently it seems to be very encouraging, but in true sense achievement of performance more than hundred percent from year to year indicates the symptom of inefficiency of planning to fix proper target about the anticipated number of population eligible to have access the benefit of the scheme. However, our study shows that all types of inefficiencies were highest in the initial years and there were improvement in later years, though in some cases there were marginal deterioration in the situation, but the same were better than that in the initial year. Thus it may be concluded that though initially there was wide case of management inefficiencies on the part of administration to channelize the scheme towards sustainable development goals, but over the years the same could be minimized.

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