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# Human Proclamation in Success: A Case Study of Immunisation Programme of Bihar. India

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***Abstract-*** Health Care service delivery system is the main source or base for the implementation of programme or project. The present paper aims to provide a standard model of follow up in BIMARU states if not all over India. **Materials and Methods-** The present paper is the outcome of the evaluation of the programme of Muskan Ek Abhiyaan (Immunisation Programme) which was launched on October 11, 2007 with the objective of achieving hundred percent immunizations of infants and pregnant women in the state of Bihar (India). The study used two stage thirty cluster analysis. Overall 1936 support workers were interviewed on various aspects for the availability of material and training. **Conclusion-** Scenario of Immunisation has changed drastically over four years in Bihar and it is interesting to conclude that factors behind such thumping success are due to the change in the health system, its governance and marked strategic shift the previous programme intervention in otherwise one of the worst performing states of India.

***Index Terms***- Health programme, human resource, health governance, Programmatic interventions

## I. INTRODUCTION

The success of programmatic interventions has been thought of major importance by giving proper thrust to the human resource at the very grass root level [i]. The health system research stresses on the integrative approach which can be multidisciplinary field, focuses on health services [ii] therefore WHO provided basic framework of six building box [iii] of health system which stresses upon the health professionals and their dependency on the support staff for success. Health care system research has taken an unprecedented interest in the recent past. Due to axis shift in implementation strategy of 'smile campaign' (*Muskan ek ABhiyaan*) has become one of major success stories to be emulated. For much needed community mobilisation health planners developed 'micro plan' and 'architectural corrections' [iv]. The overall success of National Rural Health Mission (NRHM)[v] had enormously taken support and gave its due to the human resource during the implementation phase which reflected even in the success of Muskan Abhiyan.

The present paper in the very first section introduces some current health status indicators in comparison of the past performance of the same indicators in Bihar a state in India. Second section gives information on the survey and the area it covered. Third and the final section hinges on the findings to develop key areas which if given more stress can turn the Smile campaign into a glorious laughter and others programmes also can model the strategies to achieve tremendous acceptability in the public health campaign.

## II. HEALTH INDICATOR PERFORMANCE: BIHAR

Bihar, the third most populous State in India, with a population density of 880 persons per sq. km., has recorded the highest decadal growth during the nineties and around 40% of its population is below poverty line. The major health and demographic indicators of the State like infant mortality rate, maternal mortality ratio, total fertility rate, etc. are much higher than the all India level and reflect a poor health status in the State. Amongst the major States, the Human Development Index in Bihar has been the lowest for the last three decades. Children who are underweight – 3 SDs from the median of the International Reference population are 55% of the total children and severely malnourished children were more than twenty percent according to DLHS-RCH 2002-2004 [vi].

Nevertheless, not everything is all that bleak in Bihar [vii] for past five years the statistics have started showing an uptrend, visibly in some of the significant area of health concerns such as infant mortality rate, maternal mortality immunisation coverage, institutional deliveries especially in government hospitals and skilled attendance at birth mainly due to infrastructure improvement, strategy and have been happening bad believing the data available on health records (Table 1)

| Table 1. Health Indicators' trend in Bihar | | | |
|---|---|---|---|
| **Indicator Bihar Trend India** | **Bihar** | **Trend** | **India** |
| Under 5 Mortality Rate (U5MR) | 72 | Improved from 105 in 1998 | 69 |
| Infant Mortality Rate (IMR) | 52 | Improved from 61 in 2006 | 50 |
| 3+ ANC visits by mothers | 34% | Improved from 17% in 2006 | 69 |
| Skilled attendance at Birth | 53.2% | Improved from 34% in 2007 | 76.2 |
| Maternal Mortality Ratio (MMR) | 312 | Improved from 371 in 2002 | 254 |
| Total Fertility Rate (TFR) | 3.9 | Worsened by 0.3 since 2002 | 2.7 |
| Contraceptive Prevalence Rate | 28.4% | Improved from 27% in 2005 | 56 |
| Full Immunisation coverage | 66.6% | Improved from 41% in 2007 | 61 |
| Underweight % children (0-3 yrs) | 55% | Worsened by 3% since 2002 | 40 |
| Mean age at Marriage | 17.6 | Improved from 17 in 2002 | 19.7 |
| Institutional Deliveries pvt | 12.9% | Improved from 11% in 2008 | 26 |
| Institutional Deliveries govt | 48% | Improved from 24% in 2007 | 47 |
| Anaemic women in reproductive age group(15-49 yrs) | 68.2% | Worsened from 60% in 1998 | 56.2 |
| Source: *NFHS 3 (2005-06), SRS 2006, 2007 and 2009, CES 2009 and FRDS 2010* | | | |

Bihar has achieved some of the most enviable marks in the state health programme by implementing the Muskan Abhiyan. The anomaly which needs further attention in the backdrop of the success of Muskan project can be that while declines in infant mortality have been noteworthy, especially in the context of the extremely poor strata of society in the country, still the Infant Mortality Rate in Bihar reported in 2004 remains high at 61 deaths per 1000 live births, with the rural IMR at 63 [viii]. The most recently released indicators of child nutritional status reflect an even graver situation. The National Family Health Survey-III (2005-06) reports that 58 percent of children in Bihar (compared to an all-India average of 46 percent) are underweight and 42.3 percent of children under 3 are stunted, reflecting widespread and chronic under-nutrition during the critical first years of life. The incidence of anaemia among this age group is also very high at 87.6 percent. Not surprisingly, infection rates are high and health and nutrition practices poor. Breastfeeding practices, an essential aspect of childcare and nutrition, are particularly poor in the state, with an extremely low 4 percent of newborns breastfed within the first hour of birth and only 28 percent of infants in the 0-5 month age group exclusively breastfed, in contrast to an average of 46 percent across India. 2 out of every 3 children being raised in Bihar do not receive the recommended schedule of immunizations. Given the close linkages between women and children's health, predictably women's health is poor with 68.3 percent of ever married women anaemic and 43 percent in the 15-49 year age group with chronic energy deficiency [ix].

NRHM as one of the turning point in the history of health care programmes begun with set objectives which were interlinked such as maternal mortality rate, antenatal care, institutional delivery, nutrition in children, immunisation rate. Muskaan campaign (Smile campaign) thus not actually brought smile to several mother and child but certainly a lot of cheers to the people working incessantly in one of the most smoothly coordinated campaigns in India. The Muskaan campaign was launched in 2007 in the aftermath of the revelations of the coverage evaluation survey [x] which indicated that the fully immunised children were only 19% in 2005.

## III. METHODOLOGY

The 30 cluster survey is a two-stage cluster sample. Before the sampling begins, the population needs to be divided into a complete set of non-overlapping subpopulations, usually defined by geographic or political boundaries. These subpopulations are called *clusters*. In the first stage, 30 of these clusters are sampled with probability proportionate to the size (PPS) of the population in the cluster. Sampling with probability proportionate to size allows the larger clusters to have a greater chance of being selected.

Of these selected clusters the Peripheral health workers which included ASHA (Accredited Social Health Activist), ANM (Auxiliary Nurse Midwife) and AWW (Anganwadi Worker) were drawn randomly. The total sample constituted of 690 Anganwadi workers, 397 ANM and 896 ASHA were interviewed.

## IV. RESULTS AND DISCUSSION

The interview schedule covered background, education, content knowledge of the campaign, training for programme implementation, compensation and record maintenance**.**

- Content knowledge though was high yet ANM have the highest percentage of the knowledge of the programme followed by Anganwadi and ASHA.
- Though the workers reported to know the reason of the training yet ANMs got highest percentage of training and ASHA, AWW claimed to have less training (82%) than ANMs.
- Significant percentage (almost 20%) of ASHA and ANM said to have not received compensation.
- Vaccination schedule was known to all peripheral health workers.
- All health workers have Muskaan register yet almost 21% of ASHA said that they did not update the register as they were not aware of this responsibility.

- Almost 15% of the ASHA and ANM have reported to have not received duty list register.

## V. Health System Innovations: Smile Campaign

Routine Immunisation sessions were generally held at sub-centers on every Wednesday and in one anganwadi center on every Saturday. The micro plan was changed and Auxiliary Nurse Midwife (ANM) also conducted sessions on every Friday in 2 to 3 AWCs in the first phase (2007). In the second phase (2009) immunisation sessions were also extended to villages and hamlets where health facilities AWCs did not exist (Table 2).

**Table 2. Some Strategic shift taken from 2007 to 2009 under Smile Campaign**

| **Muskaan Oct 07 to Aug 09** | **Muskaan Sept 09 onwards** |
|---|---|
| Immunization sessions to be based in health facilities and Aganwadi centre | Immunization sessions extended to villages and hamlets without any health facility or aganwadi centers |
| All beneficiaries to be registered and tracked in Muskaan tracking registers | Registration of all beneficiaries and their tracking to continue |
| Due-lists to be prepared by all mobilizers (ASHA and ICDS workers) | Due list preparations to continue. |
| Incentives to vaccinators and mobilizers based on percentage of doses administered per ICDS center against target doses in due lists. | Incentives to vaccinators and mobilizers based on number of beneficiaries vaccinated in each session. |
| Mahila Mandal payments through ANM | Mahila mandal meetings through Village Health and sanitation committees |
| Verification of achievement by ANM, Medical Officers and ICDS officers | No verification only process of certification by ANM and beneficiaries |
| **Source: NRHM. Bihar.2012** | |

The revised micro plan not only ensures that all AWCs are covered at least once every month but actively participated in mobilisation campaign when not busy in the sessions [xi] (Table 2). There is lack of satisfaction at the level of training and compensation provided especially to ASHA and AWW. Table 3 indicates that there is huge underutilisation of funds. If the funds available can be exploited fully will not only monetarily help these grass root link workers but they will work more enthusiastically and with higher vigour (Table 3).

**Table 3. Fund Utilisation for ASHA workers**

| | **Amount Approved** | **Actual Expenditure** | **Amount Approved** | **Actual Expenditure** |
|---|---|---|---|---|
| **ASHA Support System at State Level** | **407.04** | **NA** | **619.21** | **NA** |
| **ASHA Support System at District Level** | **21.60** | **NA** | **406.20** | **19.89** |
| **ASHA Support System at Block Level** | **799.50** | **NA** | **536.15** | **57.66** |
| **ASHA Training** | **2583.95** | **905.74** | **2000.0** | **27.67** |
| **ASHA Drug Kit & Replenishment** | **225.56** | **110.68** | **851.47** | **42.60** |
| **Motivation of ASHA- Saree & Umbrella** | **631.73** | **NA** | **380.98** | **129.00** |
| **Capacity Building/Academic Support** | **10.00** | **NA** | **10.00** | **5017** |
| **ASHA Diwas** | **812.30** | **339.64** | **900.00** | **292.36** |
| **Source: NRHM. Bihar 2012.p 31** | | | | |

## VI. Conclusion and Recommendations

Deliberating on the human resource which can be clinical and non-clinical becomes key success points in the success of interventions Kabene et al [xii]. Explored the problems and prospects of the health human resource in the implementation of health services in developed countries and developing countries where developing countries fail in good outcome of health programmes due to lack of permanent trained staff. Fig. 1 tries to put in summative way how the wages, training along with correct flow of responsibilities from down till the top and sense of responsibility will lend remarkably acceptable and the most replicable model of performance in future.

There were certain limitations as consistent data is not available on the peripheral workers in the past immunisation coverage reports. The sudden spurt of shift from one programme to another generally leads to confusion in these health workers as they parallel work for other programmes also. The micro level plan though has given immense boost to the programme yet these peripheral workers were got least recognition. The paper recommends that these health workers must be acknowledged as 'Symbol of Success' by recognising them separately. Substance incentives such as umbrella, Saree can be added as household

level incentives (especially children's education, employment regularity related encouragement) and also by giving them all good quality footwear too.

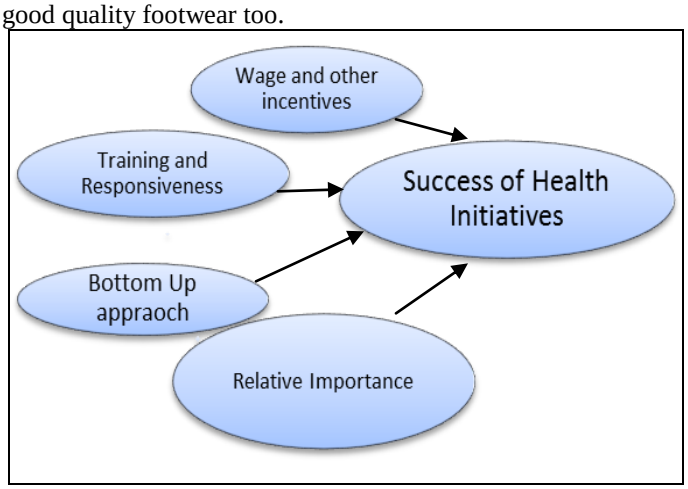


**Fig.1 Defining success by devising concerns of Human Resource.**

A lot of lethargy and monotony occurs during the schedules of regular programmes which can be broken by interaction with middle level government functionaries from time to time (though they get multilevel interaction with NGOs, health centre level). There is no grievance redressal mechanism in the campaign and hence several times these health workers are at the mercy of the reporting authority. Giving opportunity to large number of available human resource [xiii] may further help in rise of immunisation level. There is certainly lack of predicted future of these health workers and high assumption of temporary existence leads to lack of sustained interest in the programme. The research paper thus acknowledges the growth plan of such experienced workforce should be properly discussed. Training modules should be completely imparted along with the disposal of wastes in appropriate way[xiv].

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i WHO, 2007

ii Lucy Gilson, Health Policy and System Research, A Methodology Reader, Who and Alliance for Health Policy and System Research Publication, Genenva. (2012), 22-23

iii WHO, 2007

iv National Rural Health Mission: Project Implementation Plan Bihar, , State Health Society Bihar, Department of Health and Family Welfare. 2011-12 available

v National Rural Health Mission (NRHM) is an Indian health program for improving health care delivery across rural India.

vi India, DLHS-RCH, 2004-04. (22. 24).

vii National Rural Health Mission

viii Sample Registration Survey 2004, Registrar General of India

ix National Family health Survey 3, 2005-06

x District Level Health Survey (DLHS) 3 revealed that child immunization status suddenly jumped from 23% (DLHS-2) to 41% (DLHS-3). The smile campaign was introduced in the 2007 and DLHS-3 was conducted in 2007-8.

xi Goel, Dogra et al., Effectiveness of Muskaan Ek Abhiyan ( The Smile Campaign) for Strengthening Routine Immunisation in Bihar, India, Ind Paediatrics 2012; 49.(18)

xii Stefane M Kabene, Carole Orchard et al., The Importance of Human Resources management in Health Care: A Global Context, Human Resources for Health, (2006)

xiii NRHM, Bihar. Report grieves lack of human resource and unmet demand of healthcare. (189)

xiv Universal Immunisation Programme Review; Orissa.All these outreach workers were not told how to dispose the waste generated in immunization process in the field.