Plan Odisha

Mainstreaming Human Development ...

Poverty and Human Development Monitoring Agency

Quarterly News Bulletin PHDMA / Vol. I / Issue – 3 December 2016

SHRI R. BALAKRISHNAN, IAS

Development Commissioner-cum-
Additional Chief Secretary
Planning & Convergence Department
Government of Odisha

"Poverty and Human Development Monitoring Agency (PHDMA), P & C Department is going to bring out the 3rd issue of Quarterly Newsletter "Plan Odisha". This issue basically captures the Food and Nutrition situation of Odisha. The last two issues of the newsletter have successfully highlighted about Odisha's Development Paradigm, Multiple Dimensions of Poverty, Decentralized District Planning in Odisha, Performance of State in achieving MDGs, Food Security Atlas and Vulnerability Mapping in Odisha, apart from disseminating information on the flagship programs of the State Government.

The present issue of "Plan Odisha" highlights the efforts of the State Government to achieve the Food and Nutrition Security in Odisha, Analyse the Trends and Current Status of Food and Nutrition Security, Economic Growth and Poverty, Production and Productivity of Food Grains, Food Access and Nutritional Status of Population especially in Children and Women. In addition to this, this issue also covers regional analysis on the Under-Five Child Mortality Rate (U5MR) in Odisha.

I am glad to mention here that the effort of PHDMA in bringing the important development issues for the information of different stakeholders is really praiseworthy.

I wish PHDMA and this publication all success."

(R. BALAKRISHNAN)

EDITORIAL

Ensuring food and nutrition for all is one of the prime agenda of the State Government. The state has provided significant scope to protect food and nutrition security for its people as a whole and particularly to vulnerable people such as marginalized population, women, children, elderly and disabled population through successful implementation of National Food Security Mission and other nutrition safety schemes. Considering the efforts and challenges of the State to achieve food and nutrition security, the 3rd issue of "Plan Odisha" is dedicated to focus on Food and Nutrition Security in Odisha and also captures regional disparity of Childhood Mortality in Odisha, which is highly relevant in the current context of development agenda including health and nutrition for the State.

"Plan Odisha" strives to disseminate critical development information, analyses the situation and propagates the initiatives, schemes and programmes of the State Government which would benefit the Policy-makers, Planners, Administrators, other Stakeholders and General Public. We always welcome comments and suggestions to improve the quality of this newsletter for greater interest of the State.

(G. B. REDDY)
Member Secretary, PHDMA
P & C Department
Government of Odisha

Food and Nutrition Security in Odisha: Trends and Current Status

The World Food Summit (WFS) 1996 defined food security as "food security exists when all people, at all times, have physical and economic access to sufficient, safe, and nutritious food to meet their dietary needs and food preferences for an active and healthy life". As per this definition, "food security" is multi-dimensional and there are three pillars of food security – availability, access, and utilization.

Measurement of Food Security in India

Whereas, WFS Definition of food security helped defining the concept, the comprehensive measurement and mapping of food security is still a challenge. This is especially so because of the new concepts such as indexing of hunger (GFSI by the Economist and GHI by IFPRI), zero hunger (Secretary Generals Zero Hunger Challenge), SDG-2 framework of ending hunger (Sustainable Development Framework), etc, which have led to varied sets and numbers of indicators to represent food Security.

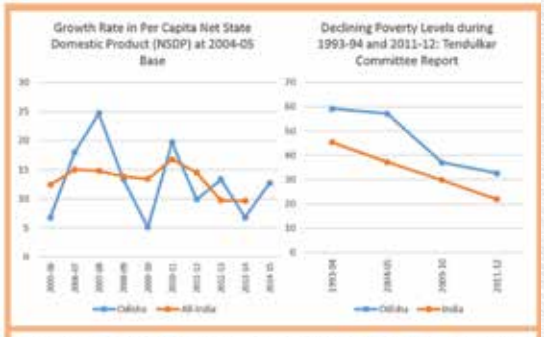
In India, the measurement and mapping of food security has been evolving. During the decade starting 2001, a series of food security atlases have been prepared by the United Nations World Food Programme (WFP) in collaboration with research institutions of repute such as the MS Swaminathan Research Foundation (MSSRF) and Institute for Human Development (IHD). Recently in 2011, the Nandi Foundation also brought out a Hunger and Malnutrition (HUNGaMA) report based on field surveys. In 2009 IFPRI had also published the State Hunger Index Report assigning ranks to various states. Based on these experiences, WFP has developed a paper defining the indicators for measurement of food security.

- Availability refers to the physical availability of nutritious, socially and culturally acceptable food in a region.
- Access refers to the affordability and ability to acquire the available food. Hence, access depends on economic capacity or resources to purchase the food as also the access to own production.
- Utilization refers to both the intra-household food allocation and biological assimilation of food, i.e, how the food is better translated into nutrient values in the body of individuals.

Another aspect that is often discussed as part of food and nutrition security analysis is 'stability' which refers to the sustainability in all the above dimensions over the time. Using the above framework, the Food Security Atlas of Odisha was published jointly by the United Nations World Food Programme (WFP) and the Institute for Human Development (IHD) in 2007 with a detailed analysis of food security status of the districts. Poverty and Human Development Monitoring Agency (PHDMA), Government of Odisha is in the process of updating this district level food security atlas in collaboration with WFP. The atlas will not only revisit the methodology but also will encompass the new evolving frameworks of "Zero Hunger" in the context of the Sustainable Development Goals (SDG-2). This paper provides a macro overview of food security situation in Odisha and the levels of progress thereof achieved by the State Government during the last decade and a half or so.

Economic Growth and Poverty

Odisha has made significant achievements both in economic growth and poverty reduction. During 2004-05 to 2014-15, Odisha has increased its NSDP by around 3.5 times, i.e., a rate similar to that at the all-India level. Poverty has declined from 59.1% in 1993-94 to 32.6% in 2011-12. It is important to mention here that during 1993-94 to 2004-05, the levels of poverty was almost stagnant around 57%. However, during 2004-05 to 2011-12, it has declined sharply by almost 25 percentage points, i.e., at around 2 percentage points per annum, which is a significant achievement.



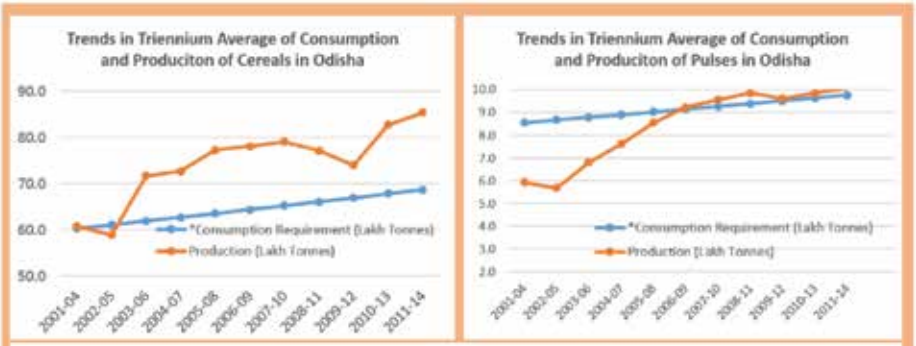
Source: The rate of growth in per capita net state domestic product and per capita net domestic product at all India level are collected from the latest Economic Survey (2015-16). The Tendulkar methodology based poverty estimates are taken from the Report of the Expert Group to Review the Methodology for Measurement of Poverty, which was headed by C. Rangarajan. The Commission was appointed by the Planning Commission, Government of India and the report was submitted to the Government of India in June, 2014.

This rate of decline is much higher than that at the all-India level. The national average of head count poverty reduced by around 15 percentage points during the same period.

Though Odisha's per capita income (PC-NSDP) of ₹52,559 is far lower than the national average of ₹74,380, the high reduction in poverty in the state may have been due to its accelerating rate of growth in the per capita income and effective implementation of the welfare and redistributive measures and the new initiatives thereof, taken by the State Government during the last decade and half[1].

Production and Productivity of Food Grains

Food grains production is an important indicator of food security. Even though there is no restriction in the inter-state transfer of food grains, many studies have shown that farmers retain a part of their produce for their own consumption. Furthermore, since Government of Odisha buys food grains[2] at the Minimum Support Price (MSP) rates through local procurement mechanisms, majority of the local production stays within the state and therefore, the quantity of food-grains, especially cereals, produced in the state could be used as a proxy for availability of food grains in the state.



Source: Cereals and Pulses production figures for Odisha are obtained from the Agricultural Statistics Division of the Government of Odisha and the corresponding all-India figures from the Ministry of Agriculture.

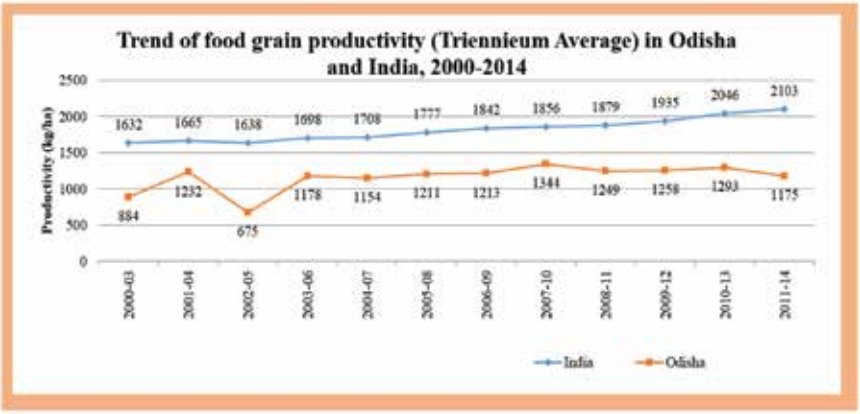
- Consumption requirement for Cereals and Pulses were estimated based on @ 500 gms/adult unit and @50 gms (dal)/adult unit per day respectively
- # Total population was converted into adult equivalent by adjusting with 88% of the total population.

Odisha has made significant achievement in food grain production. During trienniums 2002-05 and 2012-15, Odisha has achieved a Compound Annual Growth Rate (CAGR) of 4.1% per annum, which is higher than the 3.0% CAGR at all India level. This has led the state to become self-sufficient in the production of cereals to meet the needs of its population. The graphs showing trends in cereals production and consumption suggest that from being a cereals deficit state during 2001-04, the state has marched a long way to produce surplus over and above the requirements of its population. Further, the production trends suggest that the self-sufficiency is sustainable atleast in the medium run. The sustainability in the self-sufficiency of food grains production is re-enforced by the fact that the surplus production has been maintained since 2002-05 despite recurrence of natural disasters such as cyclones, floods and droughts in almost all the years since 2001, though in varying intensities.

Odisha has also achieved self-sufficiency in pulses production since 2006-09 through an accelerated growth. On a triennium basis, Odisha has achieved a growth rate of about 4.8% in the production of pulses during 2001-04 to 2012-15, which is higher than the all-India average growth rate of 2.9% during the same period. The surplus production in pulses in Odisha has been achieved despite the fact that at the all-

[1] The Government of Odisha (GoO) has taken significant reforms to implement the National Food Security Act. It has reduced the inclusion and exclusion errors in the Targeted Public Distribution System through stringent application of criteria for selection of beneficiaries. The GoO has also taken initiatives to enhance the nutritional quality of food in the schools through fortification of micro nutrients. In collaboration with WFP, a pilot trial was successfully implemented for iron fortification of rice in Mid-day Meals served to children in schools in the Gajapati district and further multi micronutrient fortification experiments are being conducted in Dhenkanal district. The GoO has plans to scale up the project throughout the state. GoO has also taken initiatives to provide food grains (through PDS) and nutritious meals to the poorest of the poor charging a very nominal price or free of cost during emergencies (KBK).

[2] Rice (Paddy) shares more than 81% of the food grains produced in the state and the staple food of Odisha is rice.

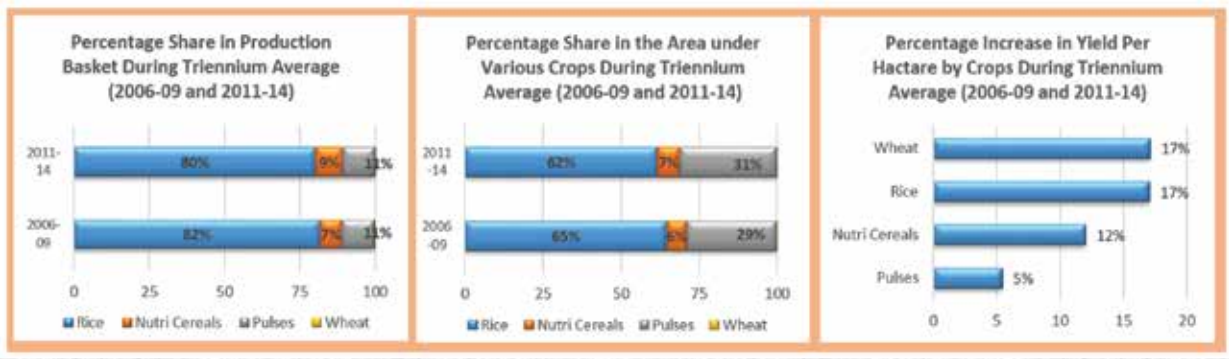


supply equilibrium seems to have been achieved at a sub-optimal level and there is scope for diversification of the foodgrains production basket. This is evident from the fact that the current level of land productivity in food grains in Odisha is much lower than that achieved at the all-India level.

The coarse cereals such as Jowar, Bajra, Ragi,Small millets and Maize, which are considered to have more nutritive values, have a very small proportion of area under cultivation and the share of these food grains in the total production of food grains has been low, though have increased marginally in the recent years. Since Odisha already produces surplus rice, over and above its domestic requirement, there is a scope for enhancing the production of nutri-cereals. To encourage the production of nutri-cereals in the state, various innovative schemes are being implemented both under the center as well as state plans. The National Food Security Mission which has been implemented in the state from 2007-08 also absorbed the Integrated Cereals Development Programe and ISOPOM to augment the production of course cereals. As per the State Agriculture Policy of Odisha (2013), the state government has also adopted a diversified set of state and central schemes[5] to enhance the production and productivity of coarse cereals.

India level, there is a huge deficit[3] in the availability of pulses leading to high levels of inflation[4] in its prices. The prices of pulses have increased significantly during 2015 and 2016. In November 2016, the average price was around ₹130 per kilogram both in Odisha and at the all-India level. The graphs showing Consumer Price Indices (CPI) for commodities indicate that the food inflation has remained higher than the general inflation since mid-2014, though both show increasing trends. Despite Odisha producing surplus pulses over and above its requirements, the inflation in pulses and its products seem to have increased significantly in Odisha since early 2015 following the all-India trend. This is so may be because much of the surplus production in pulses have gone out of the state because of the huge deficit at the all India level.

It is important to mention here that though Odisha has achieved self-sufficiency in food grains production and has sustained it for almost a decade, the demand



[3] Whereas, India produces about 18 million pulses per annum, the total domestic requirement is about 23 million mts. leaving a deficit of about 22%. Though part of the deficit is met through imports, the deficit still remains leading to high inflationary trends in pulses prices.

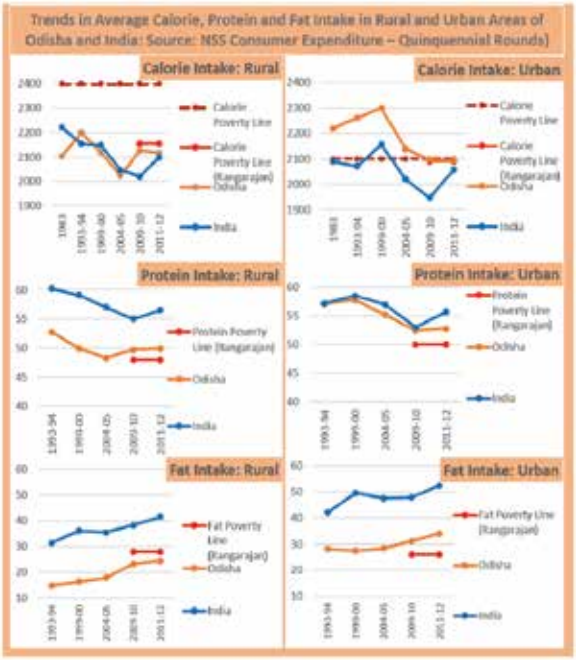
[4] CPI inflation in pulses in September 2016 is 71.5% higher than 2012 (annual average) and WPI inflation is 77.2% higher. The respective figures for cereals are 29.8% and 30.3% in September 2016 over 2012 (annual average).

[5] The current annual plan of Odisha (2016-17) has proposed to implement more than seventeen schemes opted in the State Agriculture Policy, both state and central, under the head of agriculture.

Food Access: Trends in Calorie, Protein and Fat Intakes

The remarkable achievements in economic growth, surplus production in food grains, especially in rice and significant reduction in poverty seems to have improved the access to food among the households in the state. This is reflected in the fact that the average calorie intake in rural areas is higher for Odisha as compared to the national average.

Though, in rural areas at both the national as well as the state level, the average calorie consumption is significantly lower than the calorie poverty line of 2,400 Kcal, recently, the Rangarajan Committee has revised the calorie, protein and fat norms downwards for both rural and urban areas (see box) based on the guidelines on required dietary allowances published by the Indian Council of Medical Research (ICMR). On an average, people in rural areas both in Odisha and all-India level consume less even by the revised norms. However, during 2004-05 to 2011-12, the average calorie intake has increased significantly, and is very close to the revised norms at both national and state (Odisha) levels.



Calorie, Protein and Fat Norms: Expert Group on Poverty Measurement, 2014

The calorie norms based on which the Task Force (Alagh) poverty lines were derived, and which had been the basis for the poverty lines worked out by the Expert Group (Lakdawala), is 2400 kcal per capita per day in rural areas and 2100 kcal per capita per day in urban areas.

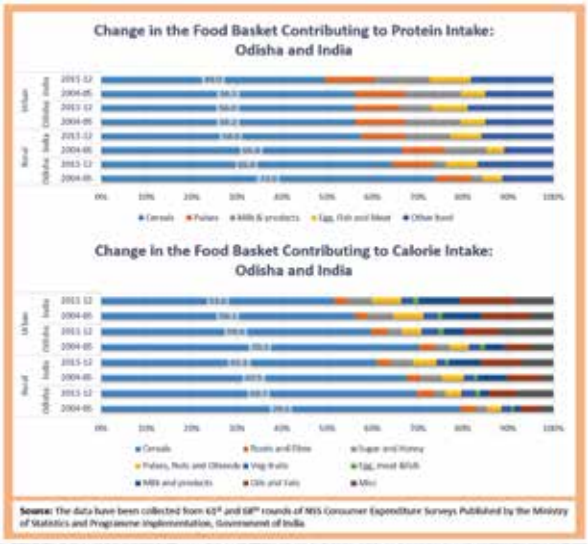
The Expert Group chaired by C. Rangarajan was appointed by the Planning Commission to review the methodology for estimation of poverty in India. Using the latest estimate of the age-sex-activity specific calorie norm as recommended by the ICMR (2010); the population weighting diagram derived from the 2011 Population Census 2011; and the age-gender location specific work-status categories from the NSS 68th round NSS Employment-Unemployment Survey (2011-12), the expert group has estimated the average calorie requirements as 2,155 kcal per person per day in rural areas and 2,090 kcal per person per day in urban areas to define the poverty line. The protein and fat requirements have also been estimated on the same lines as for energy. These requirements are 48 gms and 28 gms per capita per day, respectively, in rural areas; and 50 gms and 26 gms per capita per day in urban areas.

Importantly, the average per capita calorie intake per day in rural Odisha has been consistently higher than the all-India rural average calorie intake during the last two rounds of the NSS Consumer Expenditure surveys. In Odisha, the average calorie consumption per capita per day[6] has increased from 2,023 Kcal in 2004-05 to 2,116 in 2011-12. The current level of calorie consumption in rural Odisha is higher than the all-India average of 2,099 Kcal in 2011-12.

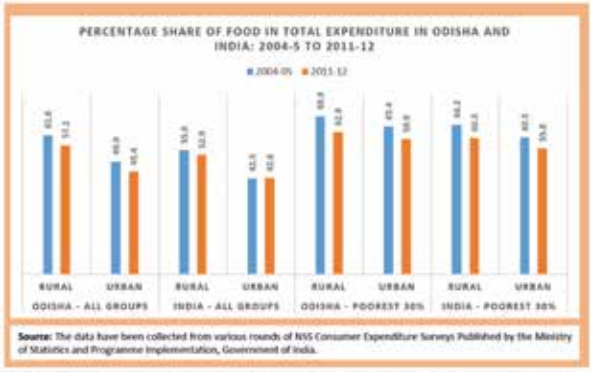
In urban Odisha, the average calorie intake showed a declining trend since 1983. However, it is consistently higher than the national average for all the periods since 1983 and currently, it is slightly higher than the calorie poverty line defined by Rangarajan Committee report and marginally lower than the minimum dietary energy requirement for poverty line defined by the Lakdawala methodology poverty line.

The average protein intake has also increased marginally from 48.3 gms/day in 2004-05 to 49.9 gms/

[6] The average calorie consumption may not necessarily represent food access among the poor. In the upcoming food security atlas, the percentage of population below threshold consumption levels will be used in the analysis. Here, we have tried to analyze the average calorie, protein and fat consumption for the poorest section and compared it with the macro level averages and tried to see the percent of household expenditure spent on food. Higher share of food in household expenditure indicates lower access of food among the poor households. Hence, the access related results here are indicative.



day in 2011-12 in rural Odisha and declined marginally from 55.2 gm/day to 52.8 gm/day in urban Odisha. For both rural and urban areas, in both the time references, the average protein intake in Odisha is lower than the national average. Similar is the case with fat intake. Though the average fat intake in both rural and urban India are higher than the Odisha averages, the figures for Odisha have increased (from 17.8 gms/day to 24.4 gms/day in rural areas and 28.3 gm/day to 34 gm/day in urban areas) during 2004-05 to 2011-12 and are higher



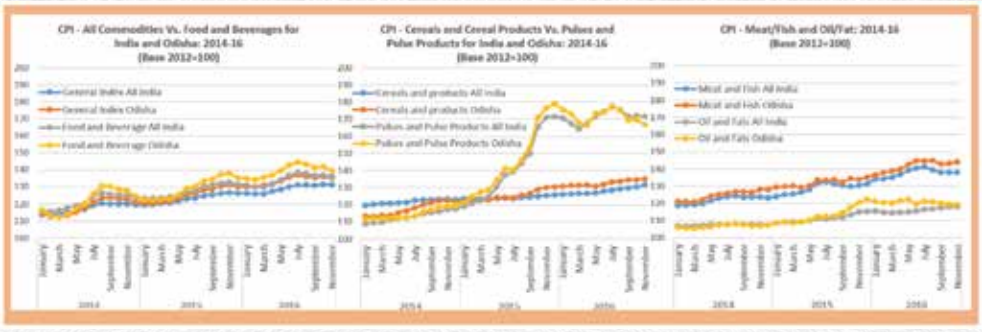
than the daily minimum consumption requirement as per the poverty line defined by the Rangarajan Committee Report.

The increasing trends in the intake of calories and especially in protein and fat suggest consumption of a diversified food basket among the households in Odisha. Both in Odisha and India the share of non-cereal food has increased among the sources of protein and calorie intakes of the people both in the rural and urban areas. What is encouraging is that in rural Odisha, the proportion of protein coming out of rich food such as "egg, meat and fish" and "milk and milk products" has increased from 4.3% to 7% and 2.4% to 3% respectively during 2004-05 to 2011-12. In urban Odisha, the share of cereals in protein has remained stagnant around 56% but there has been a shift to the rich food items such as egg, meat and fish from 5.4% to 8% during the same period.

Shift has also happened in favor of non-cereal foods as a source of calorie consumption. The contribution of non-cereals in calorie intake has increased from 20.5% to 30.3% in rural areas and 29.7% to 40.4% in the urban areas during 2004-05 to 2011-12. Among the non-cereal food groups, the contribution of milk and milk products, egg, meat and fish, oil and pulses have increased during this period.

However, the diversification of food basket seems to have come out of a major share of household expenditure against other priorities. As per the latest NSS consumer expenditure data, on an average, in rural areas, the households spend about 57% of their monthly income on food and the corresponding figure for urban Odisha is 45.4%. Both these figures are higher than the all India averages of 52.9% and 42.6% respectively for rural and urban areas.

The higher share of food in the total expenditure is indicative of the fact that high food inflation may have impacted the households' purchasing power of food, especially the poor. The graphs on Consumer Price Indices (CPI) indicate that food inflation has been consistently higher than the general inflation both in Odisha and all-India levels. The CPI for food also show a secular increase over the years. Furthermore, the

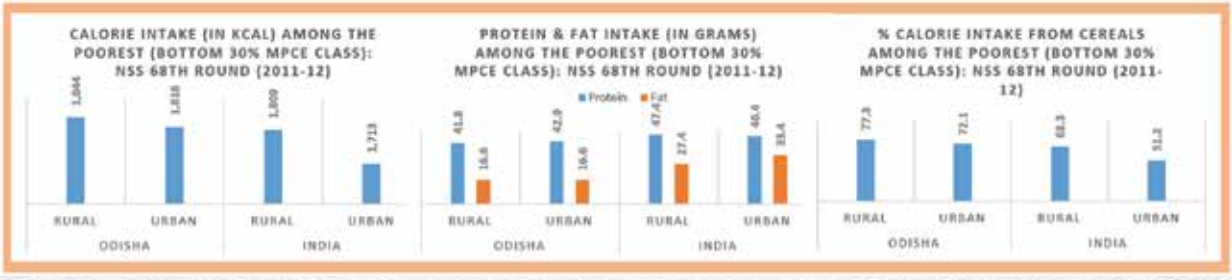


major source of protein and fat such as pulses, meat, fish, oil and fats have also been increasing over the years. The increase in pulses inflation needs special mention as the CPI with 2012 as the base has increased significantly since early 2015.

High food inflation may have had higher implication on the poor households as they spend high shares of their household income on food (63% and 60% in rural and urban areas respectively), which are higher than the respective all-India figures. Whereas, this warrants a special analysis of the calorie, fat and protein intake among the lowest four fractile population of the state, the preliminary analysis suggests that:

Among the poorest (bottom 30% in the monthly per capita consumer expenditure – MPCE class), though the current (2011-12) levels of average per capita calorie consumption of 1,844 Kcal (rural) and 1,818 Kcal (urban) are higher than the corresponding all-India averages of 1,809 Kcal (rural) and 1,713 Kcal (urban), these figures are far lower compared to minimum dietary requirements (as defined by poverty lines) as also the average intakes among the general population. Similar is the case with the intake of protein and fat. In Odisha, in 2011-12, the per capita per day protein intake among the poor was 41.8 gm and 42.9 gm respectively in total and urban Odisha and fat intake was 16.6 gm in both total and urban Odisha. The corresponding national level figures for protein intake are 47.4 gm and 46.4 gm and for fat are 27.4 gm and 33.4 gm respectively for rural and urban areas.

An analysis of the sources of calorie, protein and fat among the bottom 30% of the MPCE classes suggests that the poor households still derive a major share of their calories from cereals. This is indicative of the fact that the food consumption basket of the poorest class is limited and include very little of the diversified food commodities such as egg, meat, fish, milk, etc.



Nutritional Status of Population, Especially Children and Women

The earlier sections suggest that Odisha has achieved significant improvements in production of foodgrains and ensuring people's access to food both in quantity and quality. However, household access to food is only necessary but not a sufficient condition to achieve nutritional security among the population, especially women and children. The translation of food intake

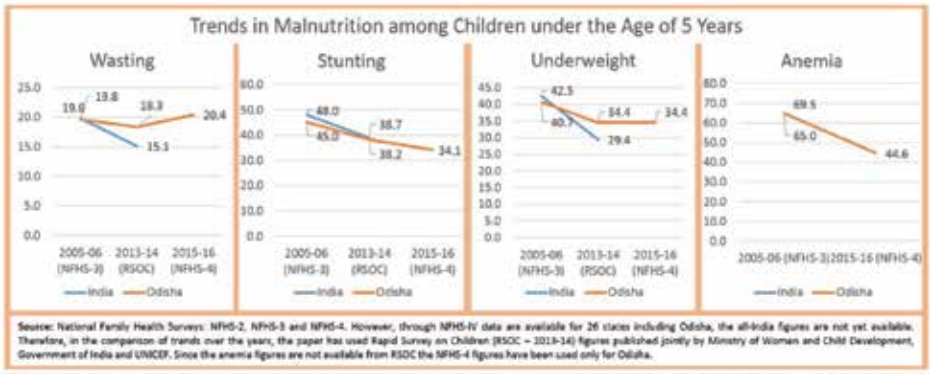
Limitations on availability and Comparability of Data on Anthropometric Measurements

The National Family Health Survey (NFHS) data has been published for three time references so far: (NFHS-1 (1992-93), NFHS-2 (1998-99) and NFHS-3 (2005-06). Whereas, NFHS-1, 2 and 3 provide data on prevalence of stunting, wasting and underweight both at the national and state levels, NFHS-4 (2015-16) is currently under publication. NFHS-4 data are already published for 22 states, which include Odisha, but the national level figures are yet to be out.

The Rapid Survey on Children (RSOC) was conducted by UNICEF during 2013-14 and the report is published jointly with the Ministry of Women and Child Development, Government of India. Though the report is not in line with the comprehensive NFHS modules, the sample size is adequate to make it comparable with the results of the previous NFHS reports.

Another limitation is that the NFHS-3 and RSOC provide the anthropometric information of children under the age of five years. The data for under-five are not available in the previous NFHS rounds. Keeping this in view, and to maintain comparability, this report has tried to see the progress of nutritional indicators for only under-5 children and between NFHS-3 and RSOC results. The NFHS-4 results are also discussed in the context of Odisha but the corresponding comparison in the progress could not be examined for the all-India level achievements.

into physical and mental growth depends on the rate of assimilation of food into the body which in turn is dependent on a number of intermittent factors such as morbidity profile of individuals, availability of health facilities, safe drinking water and sanitation, health and hygiene practices, etc. The graphs showing trends in malnutrition among children indicate that Odisha has achieved significant results on this account as well:



Source: National Family Health Surveys: NFHS-2, NFHS-3 and NFHS-4. However, through NFHS-IV data are available for 26 states including Odisha, the all-India figures are not yet available. Therefore, in the comparison of trends over the years, the paper has used Rapid Survey on Children (RSOC – 2013-14) figures published jointly by Ministry of Women and Child Development, Government of India and UNICEF. Since the anemia figures are not available from RSOC the NFHS-4 figures have been used only for Odisha.

Measures of Malnutrition (Undernutrition)

Stunting, wasting and underweight are the indicators of various dimensions of malnutrition. Each index provides different information about growth and body composition, which is used to assess nutritional status.

Height-for-Age (Stunting) is an indicator of linear growth retardation and cumulative growth deficits. It reflects failure to receive adequate nutrition over a long period of time and is also affected by recurrent and chronic illness. Height-for-age, therefore, represents the long-term effects of malnutrition in a population and does not vary according to recent dietary intake.

Weight-for-Height (Wasting) measures body mass in relation to body length and describes current nutritional status and describes acute malnutrition. Wasting represents the failure to receive adequate nutrition in the period immediately preceding the survey and may be the result of inadequate food intake or a recent episode of illness causing loss of weight and the onset of malnutrition.

Weight-for-Age (Underweight) is a composite index of height-for-age and weight-for-height. It takes into account both acute and chronic malnutrition.

Each of the three nutritional status indicators is expressed in standard deviation units (Z-scores) from the median of the reference population. Children falling in - 2SD and -3SD zones are classified into moderate and severe categories.

These indicators are measured with reference to the WHO growth standards, which is based on children around the world (Brazil, Ghana, India, Norway, Oman, and the United States) who are raised in healthy environments, whose mothers do not smoke, and who are fed with recommended feeding practices (exclusive breastfeeding for the first 6 months and appropriate complementary feeding from 6 to 23 months) the WHO growth standard identifies breastfed child as the normative model for growth and development standards, depicts normal early childhood growth under optimal environmental conditions, and can be used to assess children regardless of ethnicity, socioeconomic status, and type of feeding.

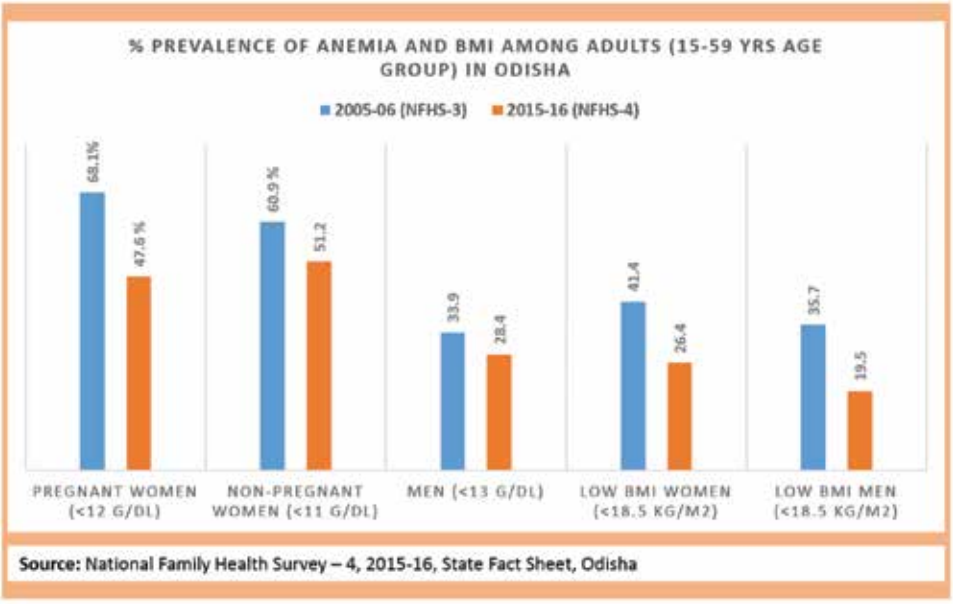
Source: NFHS-3, 2007, International Institute for Population Sciences.

The prevalence of stunting and underweight among under-5 children in the state has declined by about 11and 6 percentage points during 2005-06 (NFHS-3) and 2015-16 (NFHS-4). On the other hand, the prevalence of wasting seems to have increased in Odisha by about one percent during the same period. However, the NFHS-3 results compared with the latest RSOC (2013-14) indicates a decline in the incidence of wasting as well. The variation in stunting could be explained by the fact that the indicator is time specific - it represents acute malnutrition and is influenced by the failure to receive adequate nutrition in the period immediately preceding the survey.

Stunting on the other hand represents chronic under nutrition arising out of linear growth retardation and cumulative growth deficits. It reflects failure to receive adequate nutrition over a long period of time and is also affected by recurrent and chronic illness. It is important to note that the overall incidence of stunting has been less than the national average during both the periods corresponding to NFHS-3 and RSOC.

Furthermore, between NFHS-3 and NFHS-4, Odisha has made significant impact on anemia among under-5 children with a reduction of >20 percentage points.

On the nutritional indicators for adults as well, Odisha has achieved significant results. Between NFHS-3 and NFHS-4, anemia among pregnant women has declined by 21 percentage points and that among even non-



Source: National Family Health Survey – 4, 2015-16, State Fact Sheet, Odisha

pregnant women has declined by about 10 percentage points. The Body Mass Index (BMI) has also improved among both men and women. The percentage of women with low BMI (<18.5 kg/m^2) has declined by about 15 percentage points and the same among men by 16 percentage points.

Summary and Way Forward

The preliminary macro level analysis suggests that during the last decade and a half, alongside the economic growth and reduction in poverty, Odisha has achieved good progress in most of the aspects of food security. The state has not only achieved surplus production and on an average, improvement in the calorie consumption[7]. The nutritional indicators have also improved in the state during the last decade and a half. These improvements have taken place despite occurrence of shocks such as high food inflation and natural disasters such as floods, cyclones and droughts. Hence, it is indicative of the positive policy initiatives taken by the State Government to improve the services such as education, health, sanitation and drinking water facilities etc and also efficient implementation of the safety-net measures to include the poorest of the poor in the development of its economy.

Though the above analysis suggests improvement in all the dimensions of food security, to achieve a hunger free India, the state still needs to go a long way. The issue of food and nutrition security is multi-dimensional and contributing factors could be multi-fold. It is not within the scope of this article to investigate into the details of the indicators and factors thereof that may have contributed to the improvement in nutritional status of the population in general and women and children in particular.

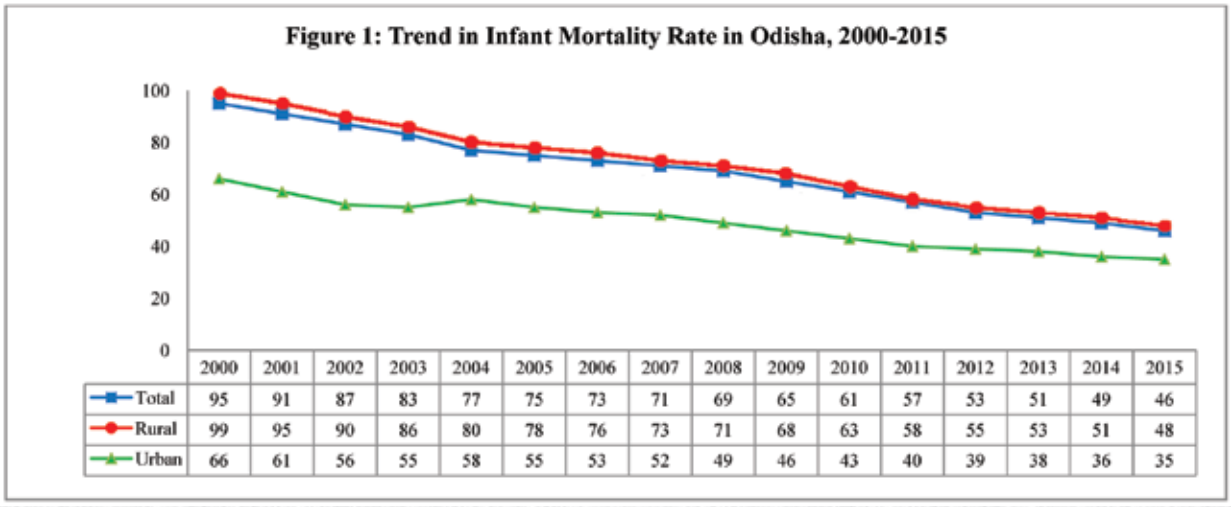
PHDMA, in collaboration with the United Nations World Food Programme, is currently preparing the Food and Nutrition Security Atlas of Odisha, which will analyze the indicators further and explore in detail the factors that may have contributed to the success and identify the areas for improvement. The atlas will also analyze further the food security status of food and nutrition security among the poorest and most vulnerable population groups both at the state and district levels. The atlas will also examine the key food and nutrition security programmes being implemented in Odisha and their performance thereof. Using the results of the atlas, the State Government could plan appropriate policy measures to achieve the targets set under Sustainable Development Goals (SDG-2) to end hunger in all forms towards a hunger free Odisha.

[7]The average calorie consumption is used as a proxy indicator here and may not necessarily represent food access among the poor (see footnote 5 above).

Childhood Mortality in Odisha: A Regional Analysis

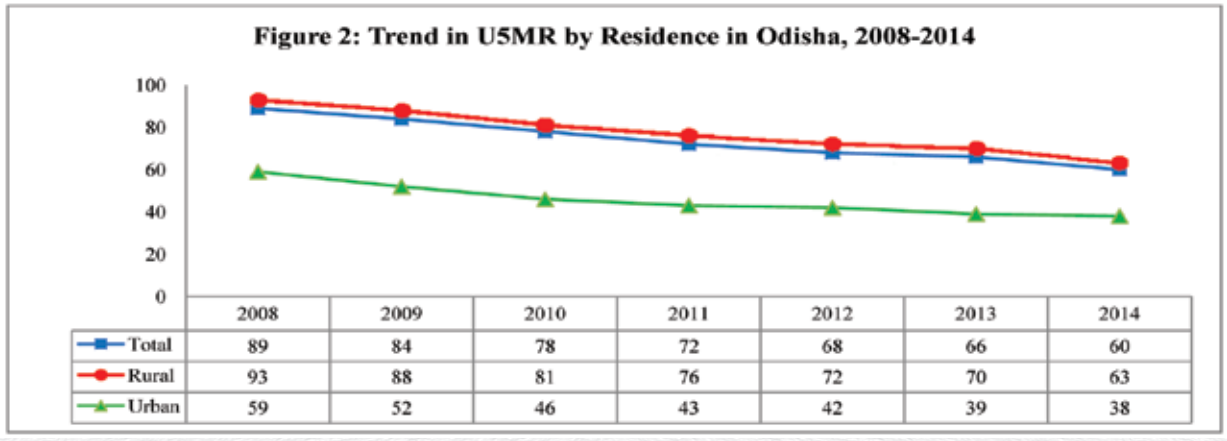
Sustainable Development Goals (SDGs) or Global goals have laid special emphasis to improve healthy lives and promote well-being for all at all ages across the world (SDG-3). By 2030, all countries aim to end preventable deaths of newborns and children under-five years of age. India is also a signatory to the SDGs and has committed to achieve all goals including SDG-3 related to health sector. Childhood mortality has been an important aspect and is widely used as the vital indicator of social and health status of any population and effectiveness of health welfare programmes. This can be measured by various indicators, i.e., early neonatal mortality (less than 7 days), neonatal mortality (less than 29 days), post-neonatal mortality (29 days to less than one year), infant mortality (less than one year), child mortality (one year to less than four years) and under-five mortality (less than five years), which are essential for demographic compositions and public health planning and administration. Infant Mortality Rate (IMR) and Under-Five Mortality Rate (U5MR) is the reflection of the level of social, economic, human development and quality of life, and are also used for monitoring and evaluating population and health programmes. Childhood mortality is determined by a combination of socio-economic, cultural, environmental, biological and behavioural factors. The endogenous factors play a greater role in influencing mortality during first month of life, particularly neonatal mortality, whereas the exogenous factors are more vital during late infancy. IMR refers to the proportion of newborns dying before the completion of the first year of age per thousand live births. U5MR is the proportion of newborns that die before completing five years of age per thousand live births. Information available through the Sample Registration System (SRS) helps us to assess the trend and rural-urban differentials in IMR and U5MR in the state. Information on death events recorded in SRS is used to estimate mortality indicators.

As per the latest SRS estimates for 2015, the IMR for Odisha is 46 deaths per thousand live births, it is higher than the national average (37). In 2014, the U5MR is 60 deaths per thousand live births in the state, which is also higher than the national average (45). Over the years, there has been a substantial decline in the IMR and U5MR in the state. The IMR has been decreased in the state from 95 in 2000 to 46 in 2015 (Figure 1). This means that over a period of fifteen years, infant mortality in the state has been reduced by an absolute number of 49 infant deaths for every thousand live births. In other words, over the past one and a half decades, for every thousand live births, life of 49 infants could be saved. In 2014, about three-fourths of IMR occurred during neonatal periods, but the percentage of neonatal deaths to total infant deaths has been significantly increased from 64 percent in 2000 to 74 percent in 2014. On the other hand, the percentage of post-neonatal deaths to total infant deaths has declined during the same period. The U5MR has declined from 91 in 2005 to 60 in 2014 in Odisha. Over the past 10 years, for every thousand live births, life of 31 under five children could be saved. During this period U5MR had declined by 34 percent in Odisha. A steady decline of 3-4 points every year since 2008 is clearly visible in Figure 2, which is considered to be a good sign for the state.



Source: Sample Registration System (SRS)

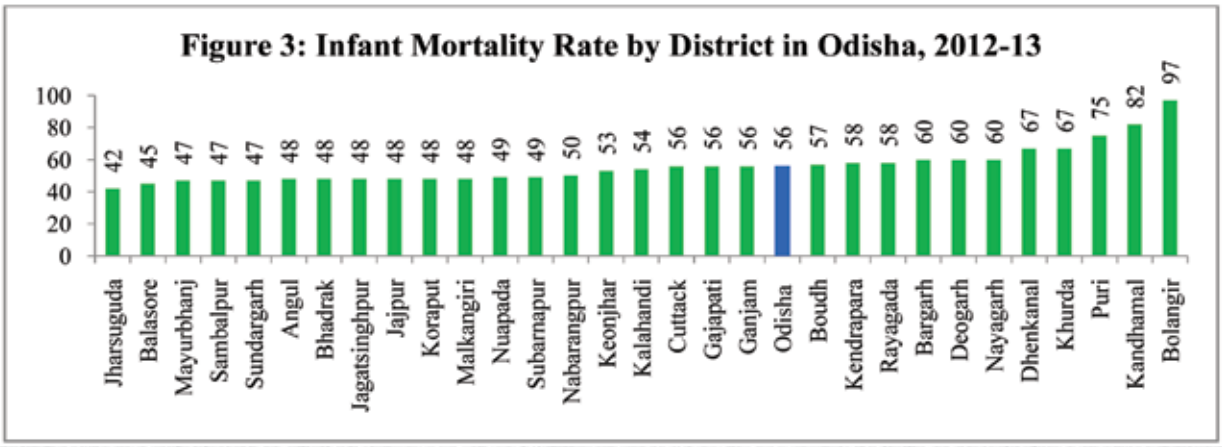
There exists a wide gap in the IMR and U5MR in the rural and urban areas of the state (Figure 1 and 2). In rural areas, the IMR is higher as compared to the urban areas. As per the latest SRS estimates for 2015, the IMR in rural and urban areas are 48 and 35 deaths per thousand live births respectively, having the rural-urban gap of 13 points. The rural-urban gap has been significantly reduced from 33 points in 2000 to 13 points in 2015, which means more than three-fifths (60.10 percent) of the rural-urban gap is reduced in the state. Similarly, under-five mortality is significantly higher in rural areas as compared to urban areas. As per 2014 SRS report Odisha has 63 U5MR for rural areas and 38 U5MR for urban areas. This means that in comparison to the urban areas, almost 25 deaths occurred in rural areas of the state for every thousand live births. The gap between rural and urban area is gradually decreasing from 34 points in 2008 to 25 points in 2014. Data on IMR and U5MR clearly indicate that the figures of rural areas are significantly higher than the urban areas. The Sample Registration System report does not provide district-wise estimates of childhood mortality for which the Annual Health Survey (AHS) estimates have been taken into account for analysis.



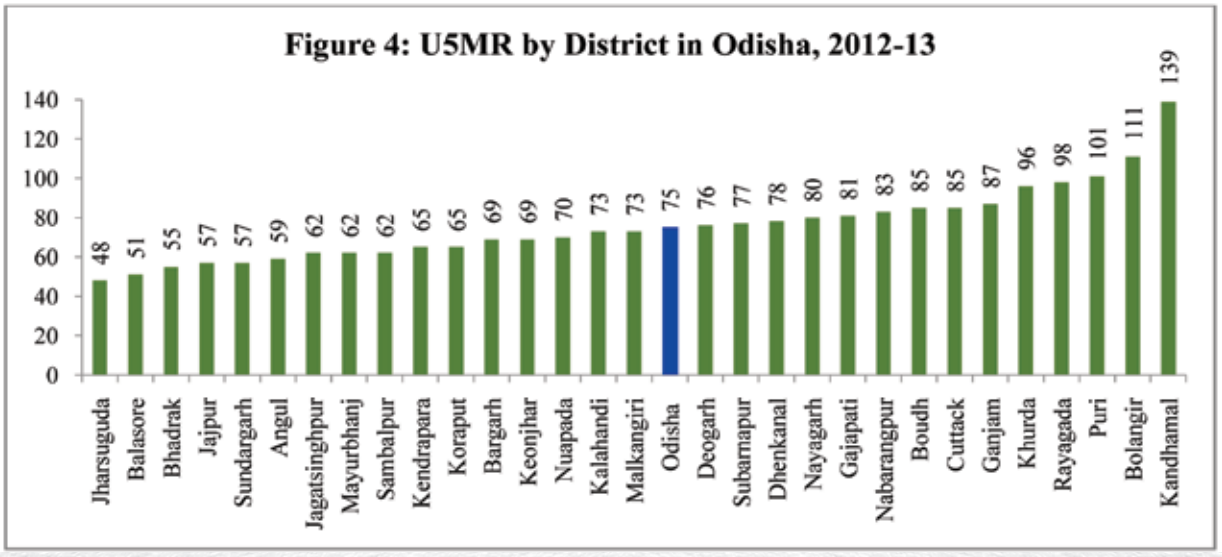
Source: Sample Registration System (SRS)

There is a considerable inter-district variation in IMR and U5MR in the state (Figure 3 and 4). As per Annual Health Survey (AHS), 2012-13, the IMR varied between 42 for Jharsuguda and 97 for Bolangir. The highest infant mortality rate is recorded in Bolangir followed by Kandhamal, Dhenkanal, Khurda, Puri,

Bargarh, Deogarh, and Nayagarh. The lowest infant mortality rate is recorded in Jharsuguda followed by Balasore, Mayurbhanj, Sambalpur and Sundargarh. For U5MR, Kandhamal recorded the highest, i.e., 139 and Jharsuguda had recorded the lowest at 48 per 1000 live births in 2012-13. In the state, districts having more than 100 U5MR are Bolangir, Puri and Kandhamal. Nayagarh, Gajapati, Nabarangpur, Boudh, Cuttack, Ganjam, Khurda and Rayagada districts who have reported U5MR ranges between 80 and 100 deaths per thousand live births. Special drive is needed for those districts to tackle U5MR.



Source: Annual Health Survey (AHS), 2012-13



Source: Annual Health Survey (AHS), 2012-13

In Odisha, reduction of childhood mortality is one of the major challenges in healthcare system. However, the available evidence shows that there has been a significant reduction in IMR and U5MR in the state. The state government has taken various initiatives and strategy to reduce the childhood mortality and reduction of rural-urban gaps in IMR and U5MR by providing better healthcare services to all. As per the Government of Odisha, H&FW Department Strategy Document : 2020, various welfare programmes like Janani Suraksha Yojana (JSY), Janani Shishu Suraksha Karyakram (JSSK), Reproductive Maternal Newborn Child and Adolescent Health (RMNCH+A), Integrated Management of Newborn and Childhood Illnesses (IMNCI), Newborn Care Corners (NBCC), Newborn Stabilization Units (NBSU), Special Newborn Care Units (SNCU), and Kangaroo Mother Care (KMC) unit etc (as may be seen in) have been introduced to improve the healthy lives and well-being of newborn and infants in Odisha.

Recent Events

6th Lecture of Odisha Knowledge Hub:

Wng Cdr Rakesh Sharma delivering the 6th Lecture of Odisha Knowledge Hub

The Sixth Lecture of OKH on "Manned Space Flight - A Learning Experience" by Wng Cdr Rakesh Sharma (Retd) AC was held on 26th October 2016. Wng Cdr Sharma shared his experiences right from the training to eight days life in the space and interacted with Hon'ble Ministers, Secretaries and other senior officers. Interestingly, students who listened to his lecture from different districts which were video linked showed lot of enthusiasm in interacting with him.

Workshop on Innovation in Education and Engineering Design:

Workshop on "Innovation in Education and Engineering Design" organized in collaboration with IIT, Bhubaneswar on 5th November, 2016. The main objective of the workshop was to bring together the two prime stake holders namely the 'teaching community' and the 'policy makers' to a single platform to discuss various aspects of Innovation that could be brought into Engineering Design and Education. The outcome was to bridge the gap between academicians, policy makers and practitioners in order to come up with practically implementable solutions regarding innovative ways of Engineering Design and Teaching.

Development Commissioner-cum-ACS inaugurating the workshop

Odisha State Vision 2036 and Interactions with Civil Society Organisations (CSOs):

Under the chairmanship of DC cum ACS, meeting was held on 10th November 2016 with a focus on Vision 2036 which will be aligned with SDG 2030. Vision 2036 (Odisha centenary year) will focus on State specific issues. Entire exercise is being done in-house involving various thematic groups constituted in the Government for the purpose. Wider consultations with various Stakeholders would be part of the exercise. During the meeting, CSOs shared the outcomes of the recently held Odisha Development Conclave.

Secretaries /Senior Officers and officials of other Departments of Government of Odisha and representatives from different CSOs attended the meeting.

Meeting on Vision 2036

Brainstorming meeting on District Human Development Report (DHDR):

In the brainstorming meeting on 30th November 2016, Shri G. B. Reddy, Member Secretary, PHDMA reviewed the progress of preparation of District Human Development Reports (DHDRs) of Khordha and Keonjhar districts with Deputy Directors of the respective districts along with other officers of DPMUs and officers of PHDMA and DES. In the meeting after detailed discussion, calendar of different processes has been drawn.

Brainstorming meeting on DHDR

Focus Group Discussion (FGD) at Khordha District:

PHDMA, P & C Department and DPMU, Khordha organized Focus Group Discussions (FGDs) on Women Empowerment in Bhingarpur G.P. of Balianta block, and Participation & Governance in Turintira G.P. of Balipatna Block, Khordha district on 14th December, 2016 and on 17th December, 2016 respectively in connection with preparation of DHDR, Khordha. Officials of PHDMA, DPMU, Sarpanch, & Ward Members of the G.P., local community along with SHG members participated in the discussions.

FGD at Khordha district

Poverty and Human Development Monitoring Agency

Planning & Convergence Department
Government of Odisha

2nd Floor, North Annex Building
State Secretariat, Sachibalaya Marg,
Bhubaneswar 751001, ODISHA, INDIA
Ph: 0674-2391075
Email: phdma@yahoo.in

www.phdmaodisha.nic.in