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**TOPIC:  
CONFLICT, SECURITY AND POVERTY REDUCTION**

**TITLE:  
A FRAMEWORK FOR MEASURING HUMAN SECURITY IN  
CONFLICT-ZONES: A MESO-LEVEL APPROACH**

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**Key Words:**

Human security, livelihoods, poverty, exclusion, mental peace, armed conflicts, access to services, meso-level framework, policy research

**Abstract**

*In recent times 'human security' has gained much attention in research and policy-making<sup>1</sup> for exploring its link with poverty and development. It has been stated that there can be 'no security without development and no development without security' and there is no doubt that deadly conflict causes poverty and immiseration<sup>2</sup>. Violent conflicts may have their origins in human insecurity: where insecurity is linked to*

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<sup>1</sup> One of the foremost thinkers in the area of human security was the eminent economist Mahbub Haq, who drew attention to this concept in UNDP's **Human Development Report** (1994) and formulated 7 categories of threats as follows: (i) Economic Security, (ii) Food Security, (iii) Health Security, (iv) Environmental Security, (v) Personal Security, (vi) Community Security and (vii) Political Security.

<sup>2</sup> Evans, Gareth (2009), 'Tackling Conflict, Fragility and Insecurity: Creating the Conditions for Effective Poverty Reduction', Keynote Address. President International Crisis Group, DFID Conference on Future of International Development, London, 10<sup>th</sup> March.

exclusion and lack of access to resources and power<sup>34</sup>. Hence, keeping track of human security becomes an important pre-requisite for sustainability of any development process. Lack of human security could imply stalling of development activities, fall in physical safety, fall in growth and investment, decline in human capacity, all pervasive uncertainty and lack of societal well being. Such implied costs are heavy for any society and also for the individuals in that society and need to be avoided/pre-empted to the extent possible.

One core issue in such policy research is how to measure human security and keep track of related changes for adopting appropriate policy-stance, strategy and actions. It is in this regard that the present paper attempts to measure human security based on a basket of nine generic criteria as follows: (i) Food security; (ii) Personal security and mental peace; (iii) Livelihoods security; (iv) Access to basic services; (v) Accessibility for communication and transport; (vi) Access to productive services and infrastructure, (vii) Access to social capital and social justice; (viii) Political Security, e.g., human rights, leadership; and (ix) Environment security.

Based on the above criteria, the paper constructs a specific measure of human security at the meso level for the tribal population of West Bengal. It adopts a mix of quantitative and qualitative framework for measuring human security and applies it to selected districts of West Bengal for an inter-comparison of those districts affected by armed conflict and violence and those not similarly affected. The quantitative and the qualitative data on the indicators/criteria lead to qualitative scores, which are then quantified to arrive at aggregate scores on human security in the area concerned and then analysed. The paper recommends construction of base line measures for human security as a pre-requisite any socio-economic development process and also suggests its periodic monitoring with regularity.

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<sup>3</sup> International Institute for Democracy and Electoral Assistance (2006), **Democracy, Conflict and Human Security** Policy Summary: Key Findings and Recommendations, Publications Office, International IDEA, SE -103 34 Stockholm, Source: <http://www.idea.int/publications/dchs/upload/Inlaga.pdf>, as accessed on 18<sup>th</sup> January 2010

<sup>4</sup> Paul Collier in his book **The Bottom Billion: why the poorest countries are failing and what can be done about it**, Oxford University Press, 2007 has argued that economic decline, low income and high employment directly contribute by increasing grievances of among particular disadvantaged or excluded groups or indirectly by reducing opportunity cost of joining a rebellion or both.

## 1. Introduction and Background

In recent times ‘human security’ has gained much attention in research and policy-making<sup>5</sup> for exploring its link with poverty and development. It has been stated that there can be ‘no security without development and no development without security’ and there is no doubt that deadly conflict causes poverty and immiseration<sup>6</sup>. Violent conflicts may have their origins in human insecurity: insecurity is linked to exclusion and lack of access to resources and power<sup>7</sup>. It has also been stated that “democracy matters for human security because well-designed and inclusive political institutions and processes are the key to both preventing violence and managing conflict constructively, and because respect for human rights and public participation are essential for meeting human development objectives”<sup>9</sup>. Hence, keeping track of human security becomes an important pre-requisite for sustainability of any development process. Lack of human security could imply stalling of development activities, fall in physical safety, fall in growth and investment, declines in human capacity, all-pervasive uncertainty and lack of societal well being. Such implied costs are heavy for any society and also for the individuals in that society and need to be avoided/pre-empted to the extent possible.

## 2. Objectives of the Present Paper

One core issue in such policy research is how to measure human security and keep track of the changes for adopting appropriate policy-stance, strategy and actions. It is in this regard that the present paper attempts to measure human security at a meso (district) level based on a basket of generic criteria. The paper constructs a specific measure of human security of different districts based on selected indicators. It adopts a mix of quantitative and qualitative framework for measuring human security and applies it to the context of India’s violent conflict zone in the state of West Bengal, India and other selected districts. The quantitative and the qualitative data on the indicators/criteria lead to qualitative scores, which are then quantified to arrive at aggregate scores on human security in the area concerned and then analysed. The paper recommends construction of base line measures for human security as a pre-requisite any socio-economic development process and also suggests its periodic monitoring with regularity.

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<sup>5</sup> especially since publication of UNDP’s **Human Development Report** (1994) though practicable measures of human security for policy purposes are still to emerge.

<sup>6</sup> Evans, Gareth (2009), ‘Tackling Conflict, Fragility and Insecurity: Creating the Conditions for Effective Poverty Reduction’, Keynote Address. President International Crisis Group, DFID Conference on Future of International Development, London, 10<sup>th</sup> March.

<sup>7</sup> International Institute for Democracy and Electoral Assistance (2006), **Democracy, Conflict and Human Security** Policy Summary: Key Findings and Recommendations, Publications Office, International IDEA, SE -103 34 Stockholm, Source: <http://www.idea.int/publications/dchs/upload/Inlaga.pdf>, as accessed on 18<sup>th</sup> January 2010

<sup>8</sup> Paul Collier in his book **The Bottom Billion: why the poorest countries are failing and what can be done about it**, Oxford University Press, 2007 has argued that economic decline, low income and high employment directly contribute by increasing grievances of among particular disadvantaged or excluded groups or indirectly by reducing opportunity cost of joining a rebellion or both.

<sup>9</sup> International Institute for Democracy and Electoral Assistance (2006), **Democracy, Conflict and Human Security**, Policy Summary: Key Findings and Recommendations Publications Office, International IDEA, SE -103 34 Stockholm, Sweden Source: <http://www.idea.int/publications/dchs/upload/Inlaga.pdf> as accessed on 18<sup>th</sup> January 2010

### **3. What is Human Security?**

The concept of human security, relatively new, first drew global attention in 1994 with the Human Development Report of the United Nations Development Programme aimed at influencing UN's 1995 World Summit on Social Development at Copenhagen. One of the foremost thinkers in the area of human security was the eminent economist Mahbub Haq, who drew attention to this concept in UNDP's **Human Development Report** (1994) and formulated 7 categories of threats as follows: (i) Economic Security, (ii) Food Security, (iii) Health Security, (iv) Environmental Security, (v) Personal Security, (vi) Community Security and (vii) Political Security.

The Report argued in its definition of human security that the scope of global security should be expanded to include seven areas: economic security, food security, health security, environmental security, personal security, community security and political security (UNDP: 1994). Since then the concept has been evolving and under-going significant transformations. Attempts at implementing the idea of human security has resulted in two major schools of thought.

In human security the focus is on the protection of individual<sup>10</sup>. It is a relatively new concept to describe the "complex of inter-related threats, associated with civil war, genocide and the displacement of populations". It is important to have a new approach and framework for understanding human security different from the traditionally explained framework of wars between nations and recommended policies to prevent them since the traditional ones are no longer relevant to violent conflicts and civil war within the state.

Those propounding human security dimensions agree that its primary goal is protection of individuals but differ with regard to threats form which an individual needs to be protected. There is both a narrow and broad concept and the narrow concept as defined is "the protection of communities and individuals from internal violence"<sup>11</sup> The proponents of the broad concept are of the view that the threat agenda should include hunger, disease and natural disasters because these also kill people and make them insecure. In the broader concept human security agenda also includes economic insecurity and 'threat to human dignity', which pose greater threat than mere internal violence and may also be inter-related to civil wars and actually influence them both directly and indirectly. Both the narrow and the broad approach to human security are complementary though the human Security Report uses the narrow concept.

### **4. Criteria for Assessing Human Security**

There is a basket of nine generic criteria, which are thought to be closely related to human security.

- (i) Food security - e.g., basic food availability, access to public distribution, safety net, nutrition etc.

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<sup>10</sup> As compared to national security which has been the defence of the state from external threats

<sup>11</sup> by Kofi Annan, former UN Secretary General

- (ii) Livelihoods security e.g., assured resources, assured earnings, access to markets etc.
- (iii) Personal security and mental peace – e.g. safety from violence, abuse, stress etc.
- (iv) Access to basic services e.g. health, education, clean water, sanitation etc.
- (v) Accessibility for communication and transport - e.g., roads, public transport, mobile services etc.
- (vi) Access to productive services and infrastructure, e.g., extension services, marketing services, micro finance services etc.
- (vii) Access to social capital and social justice, e.g. group activities, informal rules, legal services etc.
- (viii) Political Security, e.g., human rights, leadership etc.
- (ix) Environment security, e.g., loss of natural resources, climate change etc.

4.1 *Food security* – Food security is a crucial criterion for leading a healthy life and pursuing livelihoods. If there is lack of food to eat, both in terms of magnitude and quality, then life could be at peril. In case of mal-nutrition and under-nutrition health status can be adversely affected and ability to work and opportunities for healthy living can be at risk. Under-nourishment and mal-nourishment, both chronic and seasonal, can also imply increased health expenses and loss of days of work, diminished earnings, income and weakening of livelihoods’ opportunities and constraints to normal pursuance of daily work. Availability and access to basic minimum food basket in terms of both quantity and quality can augment aspects of human security.

Poor households’ access to public distribution of food, nutritious food and timely availability of food are important aspects of policy considerations. Prices of food are important in determining poor households’ access to markets and rise in food prices can diminish quantum of food in real terms. If such food insecurity is seasonal then seasonal hunger, seasonal ailments, seasonal health expenses and seasonal loss of man days and income can become recurrent feature.

4.2 *Livelihoods’ Security* – Without security of livelihoods human security cannot be ensured. By livelihoods’ security is meant ability to pursue livelihoods’-related options in an effective manner and have reasonable opportunities for accessing different types of assets and resources for sustaining and improving life and living. Livelihoods can become insecure, when there arise problems in accessing different types of assets, for e.g., change in laws, rules and regulations and procedures affecting different assets; rise in prices and costs; degradation and depletion of assets; private enclosures/hindrances to use of common property resources, climate change impacts, imposition of fee, penalty, tax etc. In case of weakening of livelihoods’ –related opportunities there could be different factors affecting living conditions of the poor households and their productive engagements. For example, for forest dwellers when access to forest resources decline they often find it problematic in absence of other avenues or substitution possibilities. To that extent they either suffer the consequences by coping with less earnings, food

consumption and other related aspects while some may decide to look for alternate livelihoods options and/or migrate.

*4.3 Personal Security and Mental Peace* – This is an important criterion for human security. Though difficult to measure, its all in the mind as far as human security is concerned. It is a question of personal feelings in terms of security considerations. A person may feel less secured even when most other criteria are favourable. It can be just one criterion which does not fall in place. For instance, climate change which can upset the personal equation on human security.

*4.4 Access to Basic Services* – Some basic minimum services such as health, education, clean drinking water, primary health and others are crucial aspects of a healthy life and reasonable access to such services constitute integral parts of human security. Such services help to organize and compose livelihoods and quality of life. Such services help to build human capital and good quality of basic services can further human capital formation. For example, access to safe drinking water not only reduces the incidence of water-borne diseases but also indirectly reduces costs of treatment from water-borne diseases. It also helps to maintain better health and better working capacity. Primary school education helps towards better human security by contributing towards development of faculties, better understanding, comprehension and knowledge-building.

*4.5 Accessibility for Communication and Transport* – These constitute important services in terms of human security, since they help towards mobility of people, commodities and services. Be it in terms of livelihoods and/or social purposes access to regular, cheap and easy communication helps. If transport prices are expensive they act as constraints to that extent for purposes of mobility. Mobile phone networking is today and important vehicle for communication is a key to people's contacts, networking and dissemination of information and to that extent helps to quicken information flows as required. Lack of road increases transportation cost.

*4.6 Access to Productive Services and Infrastructure* – Services such as extension, marketing and micro finance are important in this regard. For livelihoods composition the productive services are essential and the easier and cheaper they are the better. They help to improve the quality of livelihoods' related opportunities and to that extent help to hedge against human insecurity. If the markets for locally produced commodities are not well developed then value of the marketed produce may suffer to that extent. Markets may not be developed for different reasons. One there may be lack of road network, which can act as a constraint to movement of local produce. Under-developed markets may also imply that items are bartered; there is lack of existence of credit-linkages; prices dictated by traders; and also producers may be selling products under exploitative conditions. Extension services help to enhance the quality of produce and help to address problems and constraints in local production process. Lack of effective extension services act as a missed opportunity for local producers, because for instance, in case of agriculture, lack of extension services for pest control can constrain agriculture production and result in loss which have adverse effect on livelihoods and income.

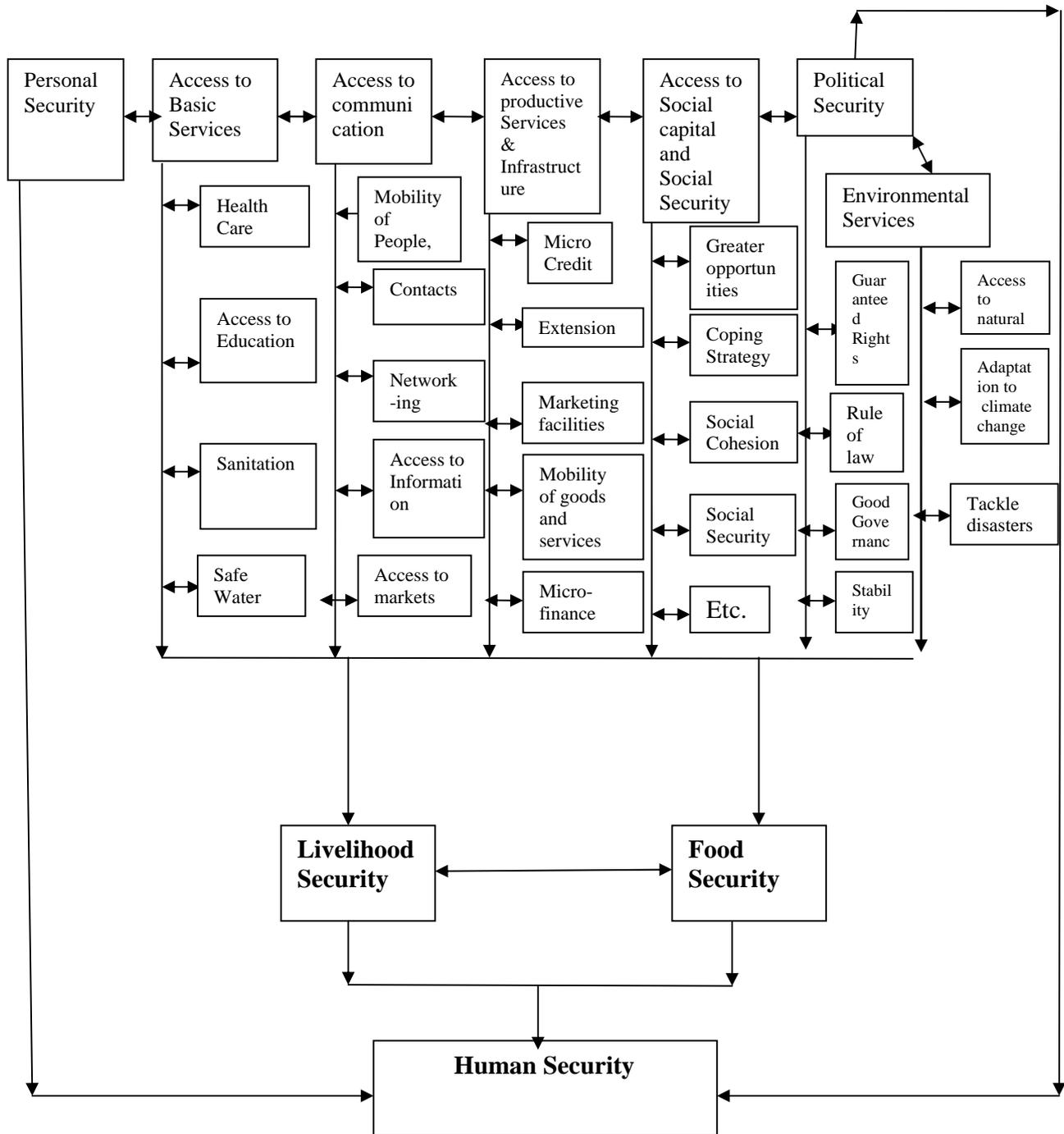
*4.7 Access to Social Capital and Social Justice* – This is an important consideration for human security. If social capital and social networks are strong human security can be better in terms of opportunities. For example, in case of drought in a locality social networks may help those experiencing shortage of food grains to borrow from those who have surplus grains. Access to social justice can help to provide social security to the needy ones and thus improve conditions of human security to that extent.

*4.8 Political Security* – Political security is another important angle of human security. If human rights are guaranteed by the laws of the land and justice system of a country is reasonably well-paced then human security is better. When human rights are guaranteed by a country's constitution but are seldom respected in practice human security becomes weak in that sense. Leadership is another indicator of human security and responsive leadership can help to strengthen human security while autocratic leadership can work the other way round.

*4.9 Environmental Security* – Environmental security is crucial in today's world of climate change. Degradation of natural resources may threaten the very plinth of livelihoods'-related assets and can threaten human security at its roots, especially if such degradation is irreversible and constitutes a critical part of the asset-base. Climate change can also threaten human security for example, increasing trends of violent cyclones and storms as a result of climate change can impact on local asset base and health of those affected and can reduce human security periodically and also over a period of time.

The inter-relationships between the above elements have been depicted in the flow diagram shown in Chart-1 below. It is important to underscore that the elements that affect human security are not stand alones but inter act and influence each other. These have been shown by “double arrows” in the diagram. It needs to be mentioned as well that the effects of these elements shown in the flow diagram under specific elements are not water tight classification. For example, provision of safe water and sanitation shown under access to basic services could also have been shown as effects of access to productive services and infrastructure. In this connection, it may be pointed out that the enumeration of the different elements of human security is not in any particular order of significance.

**Chart 1 - Inter-relationships amongst Elements of Human Security**



## 5. Armed Conflict and Human Security in India

India is witnessing a conflict situation in at least 223 districts with active Maoist's presence, especially in parts of its forest corridors where the many tribal population reside. In the context of such armed conflict and the on-going civil war the Indian Prime Minister Dr. Manmohan Singh has mentioned that India is 'losing Maoist battle' and it is the gravest internal security threat to the country<sup>12</sup>. The rebels are now operating in more than 223 districts of India with large tribal concentration through guerilla warfare tactics. The said districts in the states though rich in natural resources are relatively poor in terms of human development indicators<sup>13</sup>. Of late the Government of India intensified its offensive and purported a larger attack against the Maoists forces which is on-going<sup>14</sup>.

Collier's (2007) 'conflict trap' is aptly demonstrated in such situation where violence has been creating conditions for further violence in absence of any dramatic action to break such a conflict cycle. It is difficult to predict as to which way the conflict would go and as per an estimate (World Bank: 2007) those countries which have endured a conflict have taken an average time of 11.1 years to regain the pre-conflict per-capita income levels. Collier (2007) offers another estimate that civil war tends to reduce growth by 2.3 per cent per year, so a typical seven-year war could leave a country around 15 per cent poorer. (p.27)

The Jhargram Sub-division in the district of Paschim Medinipur, West Bengal, witnessed violence and conflict, since June 18<sup>th</sup> 2009, which continues unabated. Such violence and armed conflict extend to the districts of Purulia and Bankura in West Bengal. The outbursts of the conflict are in the forms of total shutdown of business establishments, shops and transport for example for a period of 65/66 days from June to November 2009 in the 3 districts and more than 80/90 days in Binpur block of Paschim Medinipur district during the same period. This is coupled with violent outbursts such as innumerable murders and attempts to murder of local leaders and civilians,, violent protests, setting up of road blocks, landmine attacks on police and security personnel, police atrocities, armed processions and rallies and blowing up of roads, houses, offices, bridges and rail lines.

The focus of the paper is to compare dimensions of human security in selected districts of West Bengal. It must be mentioned that such armed conflict which started in Jhargram Sub-division of Paschim Midnapur district of West Bengal (India) since June 2009 is part

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<sup>12</sup> More than 6,000 people have been killed during their 20-year fight of Maoists for a communist state. The rebels operate in 182 districts in India, mainly in the states of Jharkhand, Bihar, Andhra Pradesh, Chhattisgarh, Madhya Pradesh, Maharashtra and West Bengal with large tribal concentration. The states though rich in natural resources are very poor in terms of human development indicators (Source: India plans all-out attack on Maoists, by Siddharth Srivastava, Asia Times, September 29, 2009 ([http://www.atimes.com/atimes/South\\_Asia/KI29Df01.html](http://www.atimes.com/atimes/South_Asia/KI29Df01.html))).

<sup>13</sup> Source: *India plans all-out attack on Maoists*, by Siddharth Srivastava, Asia Times, September 29, 2009 ([http://www.atimes.com/atimes/South\\_Asia/KI29Df01.html](http://www.atimes.com/atimes/South_Asia/KI29Df01.html))

<sup>14</sup> This is against the four-decades-old Naxalite (communist rebel) insurgency that affects hundreds of millions of people across the country. There are records of more than 1,405 Naxal-related violent incidents reported across India in which 580 persons were killed. In 2008, there were 1,591 incidents and 721 killings. (Source: India plans all-out attack on Maoists, by Siddharth Srivastava, Asia Times, September 29, 2009 ([http://www.atimes.com/atimes/South\\_Asia/KI29Df01.html](http://www.atimes.com/atimes/South_Asia/KI29Df01.html))).

of a much larger conflict scenario in India. Such a conflict situation also includes Purulia and Bankura districts of West Bengal. The present conflict situation is expected to continue since official attempts to resolve the conflict situation have remained futile with little or no scope for conflict resolution. The paper does not delve into the proximate causes of such mass conflict. Rather its focus is to estimate human security index for the tribal population at the district level based on different indicators and provide meso-level comparisons in terms of such human security index and draw some findings and conclusions on that basis.

*5.1 Overview of West Bengal's Population and Poverty Reduction* - The State of West Bengal is located in the Eastern part of India with a population of 82 million<sup>15</sup>, covers an area of 88,752 Sq km with 12 agro-ecological zones. The recorded forest area in the State is 11,879 square km, which is 13.38 % of the geographical area which is estimated<sup>16</sup> to be 14.64 per cent. Accounting for 7.8 per cent of country's total population, the State of West Bengal has 72 per cent of its people living in rural areas where the proportions of the scheduled caste and the scheduled tribe population are 28.6 per cent and 5.8 per cent respectively<sup>17</sup>, while the same proportions are 19.9 per cent and 1.5 per cent respectively in the urban areas. The state has a literacy rate of nearly 70 per cent and a sex ratio of 934<sup>18</sup>. The State has implemented agrarian reforms, since the early eighties and has established decentralized planning and governance, with a three tier *Panchayati Raj* System, since 1977. Though there was accelerated agricultural productivity in the State after 1983 and this coincided with the period during which the incidence of rural poverty, it is important to point out that the poverty rates for the Scheduled Caste, Scheduled Tribe and female-headed households (Meenakshi et.al: 2000) show a much higher degree of impoverishment amongst the SC and ST communities than was indicated by the more conventional head count ratios based on the official poverty line. One of the most deprived people in the state of West Bengal is the long-neglected tribal population in terms of access and poverty levels where many of them reside in the forested areas of the conflict zone Mukherjee and Parihari: 2010 b) in Paschim Medinipur ((also see Mukherjee and Parihari:2010 a), Bankura and Purulia districts. Recent statistics show an increase in poverty and hunger profile in rural West Bengal. Bandyopadhyay (2007) based on recent statistics from the 61<sup>st</sup> Round of NSSO data for 2004-05 highlights that West Bengal has the highest food inadequacy in India with 12 per cent of the rural households facing occasional or continuous hunger and starvation followed by acute morbidity and mortality.

## **6. Choice of Indicators for Human Security Index**

For construction of human security indices for selected districts the broad framework described above in sections 3 and 4 has been followed though within limits of data availability of secondary data followed by primary data. In this paper human security of the tribal population in selected districts of West Bengal have been considered and related data has been utilized though similar indices can be constructed both at a general

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<sup>15</sup> as per 2001 Census estimates

<sup>16</sup> based on satellite data of October-Dec 2006

<sup>17</sup> census data, 2001

<sup>18</sup> provisional estimates of the Census operation 2000

level and also for other communities. As shown in Table 1, construction of human security index is based on the following criteria and sub-criteria.

6.1 *Access to basic services* has been considered based on selected services. This includes sub-criteria such as (a) Distribution of livable housing by Scheduled Tribes; (b) Availability of electricity by Scheduled Tribe households and (c) Availability of Toilet facilities by Scheduled Tribe households;

6.2 *Livelihoods'-related security* has been considered in terms of livelihoods of agriculture labourers from tribal households. This is based on the presumption that the number of agriculture labourers is indicative of livelihoods' vulnerability in terms of availability of jobs. It may be said that lesser the number of such labourers better is the situation since higher numbers mostly imply vulnerability of livelihoods at least in the difficult seasons when there is lack of agriculture work especially in the rain-fed areas. The agro-eco system has more pressures during the off-seasons where job opportunities become limited in terms of absorbing main and marginal agriculture labourers for providing enough livelihoods'-related opportunities. During off-seasons, the households of such workers are also adversely impacted in the process.

6.3 *Access to productive services and infrastructure* has been considered by the indicator of usage of banking services, which is often a critical service for livelihoods-related purposes. In this paper, it also reflects the parameter of financial inclusion amongst the Scheduled tribes in the districts of West Bengal. The other aspect of livelihoods' security is access to assets and their ownership. Better livelihoods opportunities imply ownership of assets and better quality of life such as having a radio, bike etc. These sub-indicators have also been considered while constructing the human security index (see Table 1).

6.4 *Access to transport and communication* has been considered as an indicator where the number of days of closure of business, establishments and transport has been taken into account for selected districts.

6.5 *Political security* has been taken as a qualitative indicator where it has been assumed to be of two categories – 1 for those districts where there is relative political peace and 2 for those districts where there is on-going fighting between Maoists and para-military forces.

6.6 *Environment Security* has been considered as a qualitative indicator in terms of districts generally impacted or not impacted by floods and violent storms.

6.7 *Construction of Indices* – In the construction of human security indices it is important to mention the following points. Such construction is mostly based on secondary data from Census of India 2001, primary data from collected from interviews/survey and also from newspapers and reports. However, a qualitative indicator has been used in case of environment security in terms of those districts experiencing floods and violent storms.

**TABLE 1**  
**Human Security Index for Tribal Population in Rural West Bengal:**  
**District Level**

Indicators	Puruliya	Medinipur <sup>19</sup>	Bankura	Burdhaman	Birbhum	North 24-Parganas	Haora	Hugli
(1) Index (including dist of only <u>livable housing</u> )	101.49	104.79	106.43	112.74	108.76	102.84	100.0 = 56.42	114.48
(2) Index on availability of electricity by Households	15.50	17.51	22.82	45.29	30.5	28.27	100.0	86.29
(3) Index on availability of toilets by Households	4.48	15.09	4.82	17.09	6.60	76.11	100.0	24.56
(4) Scores on No. of Agricultural Labourers	37.5	12.5	50.0	25.0	75.0	87.5	100	62.5
(5) Index on usage of banking services	67.98	77.78	103.92	65.40	66.07	55.56	100	62.2
(6) Index of households having radio	43.67	72.72	66.90	69.85	63.41	69.50	100.0	72.80
(7) Index of households having TV	58.26	34.55	33.61	63.67	53.68	98.31	100.0	84.25
(8) Index of Access to Transport and Communication without Closures	59.71	59.71	59.71	100.0	100.0	100.0	100.0	100.0
<b>Human Security Index for 1 to 8</b>	<b>48.57</b>	<b>49.33</b>	<b>56.0</b>	<b>62.38</b>	<b>63.0</b>	<b>77.26</b>	<b>100.0</b>	<b>74.63</b>
<b>RANK without including criteria on political environment and livelihoods' security</b>	<b>8</b>	<b>7</b>	<b>6</b>	<b>4</b>	<b>5</b>	<b>3</b>	<b>1</b>	<b>2</b>
(9) Political Security <sup>20</sup>	50	50	50	100	100	100	100	100
(10) Environment security – floods and violent storm	100	50	100	100	50	50	50	50
<b>Total HSI = col. total divided by 10</b>	<b>53.86</b>	<b>49.47</b>	<b>59.8</b>	<b>69.9</b>	<b>65.4</b>	<b>76.81</b>	<b>100.0</b>	<b>75.71</b>
<b>Total HSI for (1) to (11)</b>	<b>54</b>	<b>50</b>	<b>60</b>	<b>70</b>	<b>65</b>	<b>77</b>	<b>100</b>	<b>76</b>
<b>RANK based on HIS</b>	<b>7</b>	<b>8</b>	<b>6</b>	<b>4</b>	<b>5</b>	<b>2</b>	<b>1</b>	<b>3</b>
<b>HSI for (8), (9) and (10)</b>	<b>62.5</b>	<b>37.5</b>	<b>66.7</b>	<b>75.0</b>	<b>75.0</b>	<b>79.2</b>	<b>83.3</b>	<b>70.83</b>
<b>RANK for (8), (9) and (10) based on HIS</b>	<b>2</b>	<b>1</b>	<b>3</b>	<b>5</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>4</b>
<b>Human Development Index (HDI)*</b>	<b>0.45</b>	<b>0.62</b>	<b>0.52</b>	<b>0.64</b>	<b>0.47</b>	<b>0.66</b>	<b>0.68</b>	<b>0.63</b>
<b>Rank based on HDI*</b>	<b>7</b>	<b>4</b>	<b>5</b>	<b>3</b>	<b>6</b>	<b>2</b>	<b>1</b>	<b>1</b>

Source: Estimates based on Census data, 2001 West Bengal and NSSO data, Government of India

Note: HSI stands for Human Security Index' HDI stand for Human Development Index

\*Reference source: UNDP: 2004;

In terms of comparison Haora district has been taken as the reference district to which other districts have been compared. Haora district has demonstrated robust data for the different criteria considered in the construction of the human security indices. Though Medinipur is divided into Paschim Medinipur and Puro Medinipur much of the data is yet to be published in dis-aggregated form. It is also important to point out that apart from the three most disturbed districts in West Bengal – Paschim Medinipur, Purulia and Bankura due to armed conflict there are 5 other districts included amongst a total of 18

<sup>19</sup> includes both Paschim and Puro Medinipur due to limitation in dis-aggregated data

<sup>20</sup> Political security has been assumed to be of two categories – 1 for those districts where there is relative political peace and 2 for those districts where there is on-going fighting between Maoists and para-military forces.

districts in West Bengal. The 5 other districts are Haora, Hugli, Bardhaman, Birbhum and North 24- Parganas. Haora followed by Hugli have better indicators for rural tribal population, while Bardhaman is the food bowl of West Bengal with better performance of agriculture and attracting a lot of agriculture labour. North 24-Parganas has better indicators for tribal population though middle-placed in the total picture of selected districts. Birbhum has a combination of both better and poor indicators as far as tribal population of West Bengal is concerned.

## **7. Human Security Index for Tribal Population**

Table 1 as above shows human security indices for the tribal population in selected districts of West Bengal. The constructed indices show how human security of the tribal population differs across selected states of West Bengal. One of the best performing districts is Haora, which has been taken as the reference district for comparison with other districts.

7.1 Human security index for tribal population in Medinipur and Purulia is much less than that of many other districts in West Bengal and also is half that of Haora. This is understood since the tribal population in both Medinipur and Purulia has much lower access to not only basic services but also lower asset holding, huge numbers of agriculture labourers seeking livelihoods options and major constraints in communication and transport due to the armed conflict and also less of political security for similar reason.

7.2 Though Medinipur has a relatively high Human Development Index (UNDP:2004) as compared to Purulia and Bankura its Human Security Index for the tribal population is much lower than both Purulia and Bankura districts. This is easily understood since it has higher vulnerability from its huge army of agriculture labour and also from environment.

(iii) In case of Haora's its Human Development Index (UNDP; 2004) is high and so also its Human Security Index as estimated above in Table 1. Tribal population of rural Haora is better placed in terms of access to basic services, ownership of households assets, lesser vulnerability of agriculture labourers, aspects of political and environmental security and better transport and communication than all other districts considered here.

(ii) Livelihoods' security of the tribal is least in Medinipur given the vast army of unemployed agricultural tribal labour and the consequent engagement problems and hunger periods. Though Bardhaman is second in line its agriculture productivity and performance helps to better engage the tribal labourer than Medinipur.

(iii) In terms of Human Development Index Medinipur has a good rank and a good level of human development but when its tribal population is considered their Human Security Index is the lowest as shown above. This is because a dis-aggregated picture of Medinipur reveals much disparity amongst different types of population than what an aggregate index of human development show. The other aspect to consider is the set of

criteria for the two indices under discussion in this paragraph are also different<sup>21</sup>, where one pertains to tribal population in the rural area whereas the other provides a general picture of development of the entire population.

### **8. Human Security Index as a Policy Tool**

The Human Security Index at the meso level requires further exploration in terms of different types of population and how they are faring in terms of security. It is a useful index in today's world and can pin-point issues and problematic aspects for different types of population and help to compare different districts in terms of human security of its residents. It may be recommended that construction of base line measures for human security needs to be considered as a pre-requisite as an integral part of policy research for monitoring socio-economic development processes at meso level. Its periodic monitoring with regularity can help to sort out emerging issues and may help to diffuse them in time. Dis-aggregated human security index as a policy tool is the need of the hour and can help to reveal gaps in security and development aspects of local population and accordingly help to indicate the gaps and prioritizing investments on that basis.

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<sup>21</sup> For details on human development index see UNDP (2004)

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## **Annex ‘A’ – Methodology of Index Construction**

For each criterion, the index for different districts could be estimated with the help of the following formula.

**Index** = (Actual Xi value – Minimum Xi values) / (Maximum Xi – Minimum Xi values)

For computation of the above index a fixed minimum value of 0 per cent and a maximum value of 100 per cent are generally taken for each criterion. Later, a simple average of different indices could be taken to arrive at an average score for each district (see table 1). Different criteria covered have been given equal weights despite their differences with regard to coverage of population size and the proportion of women and men

## District Map of West Bengal

