

***RESILIENCE BUILDING AND
SUSTAINABLE DEVELOPMENT***

Indian Perspective

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Indian Perspective

— *Edited by* —

**Prof. Pranab Kumar Chattopadhyay
&
Daya Shankar Kushwaha**



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— *Dedicated to* —

**The Memory of
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Aligning Human Development with Tourism using Hybrid HDI and Van der Waerden (VdW) Ranking Score

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ABSTRACT

The literature has been proliferated with alternative explanations to global structural and economic transformations with an objective to visualize human development from assorted planes. The national growth drivers are periodically reassessed for their probable causal relationships with human capital development and human development index (HDI). For the developing nations livelihood choices are constrained by intertwined hindrances ranging from geographical isolation, market failures and political exclusion. On this premise a number of developing nations explored economic opportunities in tourism. Over the years the contributory role of tourism in creating jobs, improving standard of living, enhancing national output, boosting foreign-exchange earnings and supporting domestic revenue generation have been acknowledged. The robust thrust of 'tourism' as a radiant growth driver for developing nations has gone beyond a simple revenue-generating model to a more complex human-development system. This paper focuses on identifying the relationship between human development index and tourism development index in the context of India. The study uses the concept of hybrid HDI and Van der Waerden fractional ranking process to design tourism index. The study used panel data ranging from 2013 to 2017. Findings supported a high to moderate level of relationship between human development index with tourism development index. The study, novel in nature in Indian perspective, contributes to the academic disclosure pertaining to tourism, economic growth and human capital development.

Keywords: tourism, human development index, developing nation, tourism development index, causal

INTRODUCTION

Tourism has emerged as a significant contributor to economic growth of nations. The positive impact of tourism on local and national economies depends on the attributes of the tourism product, a bundle of goods and services, the majority of which are location specific. Therefore, the economic impact of tourism is linked to its unique characteristics of interrelated set of locally provided services directly and indirectly

linked to the tourist experience (accommodation, restaurants, bars, cultural and heritage attractions, transports, health services, waste management etc.). From an empirical point of view, the impact of the tourism sector at a regional and national level has been widely explored by the researchers. Many of these researchers investigated the Tourism-Led Growth (TLG) hypothesis, which specifically refers to the economic impact of international tourist arrivals, receipts, or consumption in developed and developing countries. A baseline literature review of TLG empirical analysis has been done by Sinclair (1998); however, since the 1990s, the number of studies on this topic has increased remarkably (Bimonte *et al.* 2012). The majority of TLG studies focused on a single country; however, a few considered more extensive samples (Paci & Marrocu, 2013; Lee & Chang, 2008, Figini & Vici, 2010). In general the observations revealed that the relationship between tourism and economic growth is positive and particularly robust when countries are small or represents a major tourist destination (Vanegas & Croes, 2003, Brau *et al.* 2007). These studies explored the relationship between tourism and development by means of an economic indicator, e.g. real GDP. The underlying assumption of the studies were that wealth is strongly correlated to human development, well-being, and/ or quality of life. Several researchers discussed the use of GDP as the sole indicator of quality of life or economic progress (Kenny, 2005). According to Prof. Amartya Sen (1987, 1993, 1999), income and consumption are just components of well-being, while the most crucial factor is the capability of individuals to achieve conditions in life. Since 1990, the United Nations Development Programme (UNDP) has used the Human Development Index (HDI) as an alternative indicator to measure human achievements and developments. HDI is a composite statistic used to rank countries according to several development dimensions, such as life expectancy, education, and income. Since its introduction, the use of HDI rather than GDP has been criticized by mainstream economists (Klugman *et al.* 2011). The two main shortcomings pointed out by the researchers in this context are (i) the methodology and variables used to build the index and (ii) the redundancy of the index in respect to GDP.

Following this criticism, a new version of HDI has been proposed. Redundancy of the index with respect to GDP refers to the high correlation between the level of GDP per capita and the HDI (McGillivray, 1991). Conversely, other studies found evidence that (i) the relation between GDP and other potent indicators of quality of life is not necessarily linear and universal (Kenny, 2005, p.2), (ii) the correlation between the change in HDI and the growth of GDP per capita is strong, (iii) this relationship is even weaker when one calculates the correlation between the change in the non-income component of HDI and GDP growth (Klugman *et al.* 2011).

This paper aims to study the relationship between tourism and human development. For this the revised version of HDI (hybrid HDI) has been used. Impact of tourism has been conceptualized on the basis of formation of indices based on tourist arrivals (in numbers), earnings from tourism and number of available rooms in approved hotels

and other accommodation facilities. There has been a number of studies establishing the link between tourism and economic growth. However, the relationship between tourism and human development has not received much attention in the literature.

LITERATURE REVIEW

Tourism induces both positive and negative impacts on the economy. The positive impacts refer to increase in job opportunities and local income. Moreover, the presence of a tourism industry allows the resident population to enjoy more opportunities for local entertainment, such as cultural amenities and recreational services. On the other side, negative impacts occur when, for instance, the cost of living increases due to the extra demand for second homes or when the price of local products increases due to the presence of tourists (Biagi *et al.* 2012). Negative effects may arise in the case of intensification of local crime (Schubert, 2009; Biagi & Detotto, 2014) and possible problems related to crowd and environmental pressures on the urban and natural equilibrium (Andereck *et al.* 2007, Lindberg *et al.* 2001). The study hypothesize that human development is triggered not only by improvements in economic conditions but also by tourist-host relations. Tourism is a bundle of goods and services that can only be consumed in the place of production. Hence, consumers (tourists) and producers (residents) interact with each other at the market place (tourism destinations). Apart from some exceptions, the vast majority of the tourism literature analyzing the host-tourism relationship focuses on quality of life of residents and, specifically, on their perceptions of the tourism impacts. The assumption of such studies was that the impact of tourism on resident well-being and, therefore, the development of a tourism destination will depend on the positive attitude of residents toward tourists (Purdue *et al.* 1990). This field of research used the social exchange theory to the tourism-host relationship and assumed that social relations involve an exchange of resources among social actors; social actors seek mutual benefits from the exchange relationship (Ap, 1990; Ward & Berno, 2011).

The social exchange, therefore, implies interaction among actors. A negative resident's perception of the impact implies an asymmetric and unbalanced exchange (Ap, 1990). Andereck and Nyaupane (2010) found that the frequency of interaction between residents & tourists and the impact of tourism on employment generation affect the positive perceptions of the resident population. Yu *et al.* (2011) concluded that perceived social costs have no significant impact on residents as the residents are anticipating positive impacts and exhibited higher tolerance toward tourism-induced social costs. Figini *et al.* (2009), while studying one of the major Italian seaside destinations, showed that residents consider the presence of tourists as a positive means of improving their life conditions (not strictly in an economic sense). The empirical findings highlighted that economic impact of tourism has been positively perceived in addition to other significant effects. The major draw backs of these studies were that they were qualitative and investigate the host-tourist relationship on cross-sectional

time horizon, thereby, neglecting possible medium long-run impacts of the tourism activity on the quality of life of residents. Further, none of these literature empirically tests possible impacts of tourism in resident education and life expectancy due to tourist-resident interactions. Empirical investigation of enculturation and acculturation due to host-tourist is still elusive despite some attempts made by researchers, e.g., Ankomah & Crompton (1990).

Human Development Index

The Human Development Index (HDI) is a composite statistic used to rank countries according to several development dimensions, e.g. life expectancy, education, and income. It was created by two economists, Mahbub ul Haq and Amartya Sen, in 1990 and was published by the United Nations Development Programme. The HDI redefined economic growth, earlier poised as the objective of development policies. Klugman *et al.* (2011) listed three aspects of HDI: (i) list of indicators, (ii) the functional form, which has been replaced since 2010 from an arithmetic average to a geometric average of three separate indexes, each computing on a scale where a value equal to 1 means the country has the maximum value in every considered dimension and (iii) complementarity and substitutability between the basic variables. The dimensions, indicators and dimension index of HDI are depicted in Fig.1.

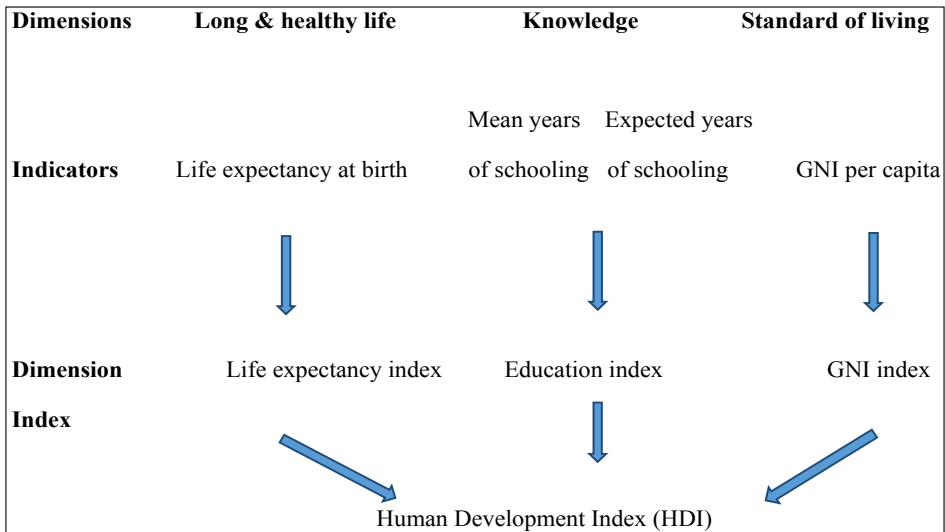


Fig.1: HDI dimensions & indicators (Source: UNDP, 2010)

Calculating the dimension-specific indices

The fixed boundaries used for each indicator of the global HDI in 2014 are summarized in table 1 below:

Table 1: Minimum and maximum values of HDI indicators

<i>Dimension</i>	<i>Indicator</i>	<i>Minimum</i>	<i>Maximum</i>
Health	Life expectancy (years)	20	85
Education	Expected years of schooling	0	18
	Mean years of schooling	0	15
Standard of living	Gross National Income per capita (PPP 2011 \$)	100	75,000

Source: UNDP, 2014.

The 2010 definition of the HDI considered the new functional form and a list of new indicators. The UNDP has defined the Hybrid HDI, a systematic assessment of trends in key components of human development over the past 40 years. The Hybrid HDI, which incorporates several changes, is computed as follows:

$$HDI = \sqrt[3]{Life * Edux * GDPx}$$

where,

$$Life_{ex} = \frac{Life - 20}{83.230_{mean2013-2017} - 20}$$

$$Edu_{ex} = \frac{\text{Mean years of schooling index} + \text{Expected years of schooling index}}{2}$$

$$GDP_{ex} = \frac{\ln(\text{mean GNI percapita India}_{2013-2017}) - \ln(100)}{\ln(75000) - \ln(100)}$$

Tourism Index

The tourism sector has been analyzed by means of variables, such as tourist arrivals (Lee & Chang, 2008), night of stays (Marrocu & Paci, 2013), and tourism receipts (Lee & Chang, 2008; Figini & Vici, 2010). The literature on Tourism- Led Growth (TLG) hypothesis has already found strong evidence of the positive impact of tourism expenditures on GDP. Consequently, in addition to the economic dimension of tourism, the study also considers supply and demand variables by observing data from the World Tourism Organization (UNWTO). After scanning almost 20 tourism indicators from the statistics World Tourism Organization (UNWTO), the study considered three variables (selection based on data constraints):

1. Tourism expenditures of inbound tourists (Texp): variable refers to the amount paid for the acquisition of consumption goods and services, as well as valuables, for own use or to give away, for and during tourism trips (UNWTO, 2008).

2. Total number of rooms in hotels and similar establishments (Rooms): variable represents the number of approved organizations offering formal tourist accommodation (supply side of the market)
3. Tourism arrivals in hotels and similar establishments (Tourarriv): variable represents a proxy for tourism demand in destination countries and refers to the number of persons who arrive at a tourist accommodation and check in.

Furthermore, tourists in destination countries might represent an additional channel for transmitting new ideas and knowledge to local firms, increasing their productivity and, therefore, national GDP. For the first time, this specific type of spillover effect has been empirically analyzed by Marrocu and Paci (2011). The presence of tourists in the destination countries might also affect the other components of HDI. Tourism arrivals might also exert a positive impact on the literacy rate of the local population. Of course, negative externalities may also occur when the presence of visitors decreases the quality of life of the resident population due to excessive crowds, congestion, noise, and lack of safety (Andereck *et al.* 2007, Lindberg *et al.* 2001). The host-tourist social relationship might produce a positive or negative attitude of residents toward tourists that depends on the perceptions of residents on the effect of activity on their communities (Ap, 1992, Figini, 2007, Andereck *et al.* 2007, Aref, 2011).

In order to check how tourism affects development, one can analyze the impact of every variable but also merge them into a single composite measurement, which would allow one to capture the tourism market as a whole (demand and supply side) and, therefore, the importance of tourism activity at the destination. As per the recommendations of Handbook on Constructing Composite Indicators (OECD, 2008) we propose the use of the Van der Waerden (VDW) ranking score, which is a type of fractional rank (FR) defined as:

$$VDW_{i,t} = \frac{R_{i,t}}{n+1}$$

where,

$VDW_{i,t}$: Var Der Waerden rank for country i at time t ;

$R_{i,t}$: rank of country i at time t ;

for $i = 1 \dots n$ countries and $t = \text{Year } 2013 \text{ to } 2017$

The VDW fractional rank is a simple method for standardizing scores so that they range from $1/(n+1)$ to $n/(n+1)$. The advantage of the Van Der Waerden metrics is that they combine the efficiency of the ANOVA analysis with the robustness of the Kruskal-Wallis metrics when the normality assumptions do not hold. Methods based on rankings are not affected by outliers and allow us to follow over time the performance of countries in terms of relative positions. However, individual performance in absolute terms cannot be evaluated as information on levels is lost. After having computed the

VDW index for each variable, which was expressed in relative terms with respect to every country's total area, the average of the three scores is calculated to obtain the final index of tourism for each location under analysis:

$$Tourism\ Index_{i,t} = \frac{\sum_{j=1}^3 VDW_{i,t}}{3}$$

where j is the total number of variables in the index. In this case, a higher score corresponds to more touristic areas. In our view, the main advantage of using this method to build the tourism index is its computational simplicity. Furthermore, the presence of few variables makes simpler and more easily interpretable the connections between the single variable inside the index and each variable inside the HDI. Other works have used composite indices based on rankings. Biagi *et al.* (2012) explore the effect of tourism on the house market in 377 Sardinian municipalities (Italy). The authors construct a simple index by using six variables: local expenditure in recreation and culture; number of summer houses; total number of accommodations in hotels and similar establishments; location quotient of tourist sector; distance from the coast; and altitude.

Methodology

The present study investigates the link between tourism and human development for India as a tourist destination using panel data for a span of 5 years ranging from 2013-2017. Effects of tourism on HDI has been measured by means of a composite Tourism Index (Biagi *et al.* 2012), which allowed to capture the importance of the tourism market as whole (demand and supply side factors). The study used secondary data published by UNDP, OECD, WTTC to access data pertaining to HDI and tourism with respect to India for the years 2013 to 2017 (5 years). Tourism is surrogated through three alternative variables: a) tourism expenditures of inbound tourists (Texp); b) total number of rooms in hotels and similar establishments (Room) and c) tourism arrivals in hotels and similar establishments (Tourarriv. The overall variable description is depicted in Table 2.

Table 2: Variable description

<i>Label</i>	<i>Description</i>	<i>Source</i>
HDI		
Hybrid HDI	Hybrid HDI values, $HDI = (Lifex * EDUx * GDPx)^{(1/3)}$	UNDP
Lifex	Health Index, $Lifex = (Life-20)/(83.230-20)$	UNDP
EDUx	Education Index, $EDUx = (Litx * GERx)^{(1/2)}$	UNDP
GDPx	$\ln(163.28143(Liberia, 1995))$	

Tourism Index

Texp	Tourism expenditure of inbound tourists US\$ Mn	UNWTO
Room	Number of rooms in hotels and similar establishments (Units)	UNWTO
Tourarriv	Arrivals / Overnight visitors (tourists) in hotels and similar establishments ('000)	UNWTO

Table 3 represents the HDI data for India over the span of 2013-2017.

Table 3: HDI data for India (2013-2017)

Year	HDI rank	Country	Human Development Index (HDI)	Life expectancy at birth	Expected years of schooling	Mean years of schooling	Gross national income (GNI) per capita
			Value	(years)	(years)	(years)	(2011 PPP \$)
2013	135	India	0.586	66.4	4.4	11.7	5,150
2014	130	India	0.609	68.0	11.7	5.4	5,497
2015	131	India	0.624	68.3	11.7	6.3	5,663
2016	131	India	0.626	68.5	11.9	6.3	6,490
2017	130	India	0.640	68.8	12.3	6.4	6,353

Source: UNDP (2013, 2014, 2015, 2016, 2017).

Table 4 represents the data pertaining to variables of Tourism Index of India over the span of 2013-2017.

Table 4: Data for building Tourism Index for India (2013-2017)

Year	Country	Tourism expenditure of inbound tourists US\$ Mn	Number of rooms in hotels and similar establishments (Units)	Arrivals / Overnight visitors (tourists) in hotels and similar establishments (in millions)	Van der Waerden Tourism fractional Index rank
		Value	Units	Domestic International Total	
2013	India	18445	75353	1145.28 6.97	1152.25 .5000 .267
2014	India	20396	79567	1282.80 7.68	1290.48 .6333 .278
2015	India	21437	81011	1431.97 8.03	1440.00 .6879 .309
2016	India	23785	79879	1613.55 8.80	1622.35 .7666 .348
2017	India	28705	90897	1724.98 10.04	1735.02 .28000 .421

Data analysis

The correlation between HDI and Tourism indices is positive and strong (Table 5).

Table 5: Correlation matrix between HDI and Tourism indices

		HDI	Lifexpec	Expecschool	Meanschool	GNIpc	TI	Texp	Room	Tourarriv	VDWrank
HDI	Pearson Corr.	1									
	Sig. (2-t)										
Lifexpec	Pearson Corr.	.966**	1								
	Sig. (2-t)	0.000									
Expecschool	Pearson Corr.	0.876	.969**	1							
	Sig. (2-t)	0.051	0.000								
Meanschool	Pearson Corr.	0.758	.897*	.978**	1						
	Sig. (2-t)	0.137	0.039	0.000							
GNIpc	Pearson Corr.	0.863	0.829	0.703	.572*	1					
	Sig. (2-t)	0.060	0.082	0.185	0.004						
TI	Pearson Corr.	0.874	0.751	0.575	-0.410	.862**	1				
	Sig. (2-t)	0.053	0.144	0.310	0.493	0.001					
Texp	Pearson Corr.	.895*	0.794	0.640	-0.491	0.857	.993**	1			
	Sig. (2-t)	0.040	0.109	0.245	0.401	0.064	0.000				
Room	Pearson Corr.	0.855	0.757	0.635	-0.510	0.664	.918*	.945*	1		
	Sig. (2-t)	0.065	0.139	0.250	0.380	0.222	0.028	0.015			
Tourarriv	Pearson Corr.	.952*	.882*	0.741	-0.593	.958*	.950*	.948*	.831*	1	
	Sig. (2-t)	0.012	0.048	0.152	0.292	0.010	0.013	0.014	0.004		
VDWrank	Pearson Corr.	0.154	0.019	0.156	0.248	-0.035	0.507	-0.506	0.635	.652*	1
	Sig. (2-t)	0.805	0.976	0.803	0.687	0.956	0.384	0.384	0.249	0.003	

*. Correlation is significant at the 0.05 level (2-tailed); **. Correlation is significant at the 0.01 level (2-tailed).

To examine the relationship between the tourism indices and the social dimensions (health and education), an additional index, the Social HDI has been constructed that considers the geometric average between Education and Life Expectancyrate indexes:

$$\text{SocialHDI} = \sqrt[3]{\text{Life}_x + \text{Edu}_x}$$

The variables are highly correlated with regard to their levels (Table 6).

Table 6: Correlation matrix between Social HDI and Tourism indices

		<i>Texp</i>	<i>Room</i>	<i>Tourarriv</i>	<i>VDWrnk</i>	<i>TI</i>	<i>SHDI</i>
Texp	Pearson Corr.	1					
	Sig. (2-t)						
Room	Pearson Corr.	.462*	1				
	Sig. (2-t)	0.003					
Tourarriv	Pearson Corr.	.948*	.281*	1			
	Sig. (2-t)	0.014	0.007				
VDWrnk	Pearson Corr.	0.506	0.635	.638**	1		
	Sig. (2-t)	0.384	0.249	0.00			
TI	Pearson Corr.	.993**	.918*	.950*	0.507**	1	
	Sig. (2-t)	0.001	0.028	0.013	0.001		
SHDI	Pearson Corr.	.965**	.899*	.987**	-0.287	.754**	1
	Sig. (2-t)	0.008	0.038	0.002	0.640	0.000	

*. Correlation is significant at the 0.05 level (2-tailed); **. Correlation is significant at the 0.01 level (2-tailed).

Regression analysis was used to test the predictive model. Tourism index was considered as the predictor for HDI and SHDI. Table 7 and Table 8 represent the regression results. Comparing the results it can be observed that Tourism Index (TI) explains more variance in SHDI (.909) compared to that of HDI (.764). However TI has proved to be a good predictor of both SHDI ($F=30.028$, sig. - .001, $\beta = 0.954$, $t=5.480$ and sig. - .001) and HDI ($F=9.727$, sig. - .005, $\beta = 0.874$, $t=3.119$ and sig. - .005).

Table 7: Predictive model with TI as predictor and HDI as the dependent variable

		Model Summary ^a					ANOVA		Coefficients								
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					F	Sig.	Unstan- dardized Coefficients	Standardized Coefficients	t	Sig.		
					R Square Change	F Change	df1	df2	Sig. F Change							B	Std. Error
1	.874 ^a	0.764	0.686	0.01150	0.764	9.727	1	3	0.005	9.727	.053 ^b	0.287	0.092	0.874	3.119	0.005	0.000
												0.524	0.030		17.250		

^a. Predictors: (Constant), TI; ^b. Dependent Variable: HDI.

Table 8: Predictive model with TI as predictor and SHDI as the dependent variable

Model	Model Summary					ANOVA		Coefficients										
	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				F	Sig.	Standardized Coefficients		Collinearity Statistics					
					R Square Change	F	df1	df2			Sig. F Change	Beta	t	Sig.	Tolerance	VIF		
1	.954 ^a	0.909	0.879	0.03817	0.909	30.028	1	3	0.001	30.028	.012 ^b	0.954	5.480	0.218	0.001	0.842	1.000	1.000

^a. Predictors: (Constant), TI; ^b. Dependent Variable: SHDI

DISCUSSION AND CONCLUSION

The purpose of the study is to explore the relationship between human development and tourism development for India as a tourist destination. Previous research has already found a positive and significant relationship between tourism and economic growth (TLG hypothesis); however, very little attention has been devoted to the relationship between tourism and a broader definition of economic progress, such as the Human Development Index (HDI) of UNDP, a measure of individual capabilities. Although one could think about redundancy between GDP and HDI, it was found that when change in the non-income component of HDI (the Social HDI) is considered, rather than their levels, the correlation between the economic and social dimensions of HDI reduces or even collapses. Tourism indices were found to share significant correlation with HDI and SHDI. The predictive models also holds good. However, higher level of variance in SHDI can be attributed to TI compared to HDI. Therefore the social issues of development namely health and education seems to be more influenced by the tourism activities. One possible explanation is the social exchange among tourists (demand) and residents (supply). The presence of a temporary population, such as foreign visitors, with a high level of education, high income, and an open-minded attitude may trigger changes in residents' aspirations and perspective on life. These findings suggest the need for further studies on the role of tourism in human development beyond the pure economic growth effects. Moreover, they also indicate the need to more deeply investigate the role of tourism on residents' quality of life using methodologies other than the analysis of resident perceptions through questionnaires.

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Prospects and Challenges of Government Model Schools in West Bengal

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ABSTRACT

The major focus of the Twelfth Five Year Plan was in implementing the objectives of the RTE (Right to Education) Act and aligning the government policies and practices with the objective of providing quality education to the target population in the age group of 14-18 years. The Model School Scheme was proposed during the previous plan and this was a major step to make secondary education important and equitable. The present paper tries to highlight the concept and characteristics of Government model schools, the possibilities for its further development and the challenges they are facing to propagate quality education in the rural and remote areas of West Bengal.

Keywords: Secondary education, model schools, possibilities, problems

INTRODUCTION

According to Dr. Radhakrishnan, ‘Secondary education is the next step to primary education and it should comprise a curriculum of science, humanities and languages to cater to the diverse needs of the pupils.’ Secondary education was not a major thrust area till the Tenth Five Year Plan Period (2001-2007). Primary education has always remained in focus of Government of India and it is true that if at the primary stage children do not get enrolled or there is a high dropout rate then secondary education loses its importance. The major theme of the Eleventh Plan Period (2007-2012) was ‘faster and more inclusive growth’. The target was to reduce the dropout rate for primary and secondary schooling by 10% for both girls and boys. Thus Eleventh Plan emphasized quantity over quality. During this plan Government of India proposed the Model School Scheme. It envisages setting up ‘6000 model schools at the rate of one school per block. These schools will be the Centre of Excellence and would have infrastructures and facilities at least of the standard of the Kendriya Vidyalayas with stipulation for pupil-teacher ratio, educational environment, appropriate curriculum and emphasis on output and outcome. About 3500 educationally backward blocks

would have model schools that would be set up in the Government. The remaining 2500 blocks would have model schools to be set up under PPP (Public Private Partnership) to be managed by the private partner with full autonomy and management control. The Government would provide a capital incentive.’

Objectives

The objectives of the present paper are as follows:

- To understand the concept of model school scheme.
- To study the present position of model schools in West Bengal.
- To identify the prospects and challenges of Government model schools in West Bengal.

Concept of Model School

Some of the key features of a model school are: (i) Education provided in a Model school should be holistic and integral touching upon physical, emotional and aesthetic development in addition to academics. (ii) Either brand new schools may be established or existing schools may be converted in to Model schools. (iii) Necessary infrastructure will be provided in such schools not only for satisfying teaching needs, but also for sports and co-curricular activities. There will be sufficient scope for sports, recreation and outdoor activities. Facilities like playground, gardens, auditorium etc. will be provided in Model schools. (iv) The curriculum should cast the local culture and environment and learning should be activity based. (v) These schools will have adequate ICT infrastructure, Internet connectivity and full time computer teachers. (vi) The Teacher Pupil Ratio should not exceed 1:25 and the classrooms will be spacious enough to accommodate at least 30 students. However, classroom-students ratio will not exceed 1:40. (vii) These schools will be provided with Arts and Music Teachers besides subject specific teachers as per the usual norms. These schools will also create facility for activities emphasizing Indian heritage and art & craft. (viii) Special emphasis may be given on teaching of Science, Maths and English. If required, bridge-courses may be introduced for weak students. (ix) The school curricula should include the material/items that inculcate leadership qualities, team spirit, participation abilities, development of soft skills and ability to deal with real life situations. (x) Health Education and health checkup will be introduced in these schools. (xi) A good library with books and magazines for students and teachers will be provided. (xii) Field trips and educational tours will be an integral part of the curriculum. (xiii) Medium of instruction will be left to State Governments. However, special emphasis will be given on English teaching & spoken English. (xiv) Affiliation of these schools to a particular examination board will be left to State Governments. (xv) Selection of students will be through independent selections test. (xvi) Selection of Principals and Teachers will also be through an independent process to be developed in consultation with State

Governments. (xvii) Model schools will have appropriate pace setting activities so that schools in the neighbourhood can benefit.’

Implementation

3500 of the 6000 model schools will be set up in the Educationally Backward Blocks (EBBs) on Kendriya Vidyalaya template. Another 2,500 schools will be set up under Public Private Partnership (PPP) mode. The schools can be from classes VI to XII or XI to XII. The Role of the State Government in setting up 3,500 Schools is as follows: ‘(i) These schools will be set up and managed by State/UT Governments through society set up for this purpose. These schools could be existing State/UT government schools converted into model schools or brand new schools. (ii) State/UT Governments will provide land for setting up of schools, wherever required. (iii) While deciding the locations of the schools, State/UT governments are advised to consult block Panchayats in an appropriate manner. (iv) Every State/UT will furnish an implementation schedule/ plan in order to implement the project in a time bound manner. (v) The minimum land requirement will be fixed as per the KVS norms, but may be appropriately relaxed in cases of scarcity of land subject to satisfaction of essential norms. (vi) These schools will be established in educationally backward blocks and priority will be given to schedule V areas. Priority may also be given to Ashram Schools in case of upgradation/conversion of existing schools (vii) Constructions will be through the State societies that will manage these schools and therefore state share towards capital cost will have to be credited to these Societies. (viii) States can also enter into PPP to get the buildings constructed and maintained for which annuity payment will be made by the State Government. (ix) Appropriate monitoring committees will be set up by the State Government at block, district and state level. The State level monitoring committee will also have members from Central Government. (x) Will select and make available temporary accommodation with necessary facilities, in case the State Government intends to start the schools before completion of construction work.’

The major theme of the Twelfth Plan (2012-2017) was ‘faster, more inclusive and sustainable growth’. The major focus was in implementing the objectives of the RTE (Right to Education) Act and aligning the government policies and practices with the objective of providing quality education to the target population in the age group of 14-18 years. The several centrally sponsored schemes that was formulated for the development of secondary education are Rashtriya Madhyamik Shiksha Abhiyan (RMSA), Model School Scheme, Girls Hostel Scheme, ICT at schools, Inclusive Education for Disabled at Secondary Stage, Scheme of Vocational Education, National means-cum Merit Scholarship Scheme, National Incentive to Girls and Appointment of Language Teachers. For proper monitoring and implementation all these smaller schemes were merged into RMSA.

Model Schools in West Bengal

Out of 496 blocks, Government of India and West Bengal identified 87 blocks as Educational Backward Blocks (EBB) on the basis of rural female literacy below the national average and the gender gap in literacy higher than national average. 275 blocks as Non- Educational Backward Blocks was identified. From 2009 to 2015, 67 model schools have been approved.

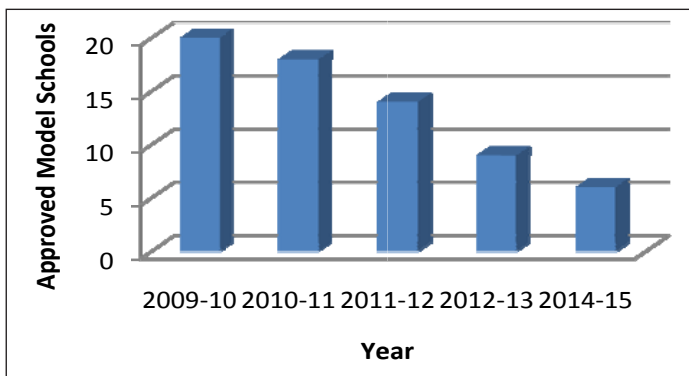


Fig. 1: Year wise approval of Model Schools in West Bengal

Source: http://mhrd.gov.in/model_school_state_details

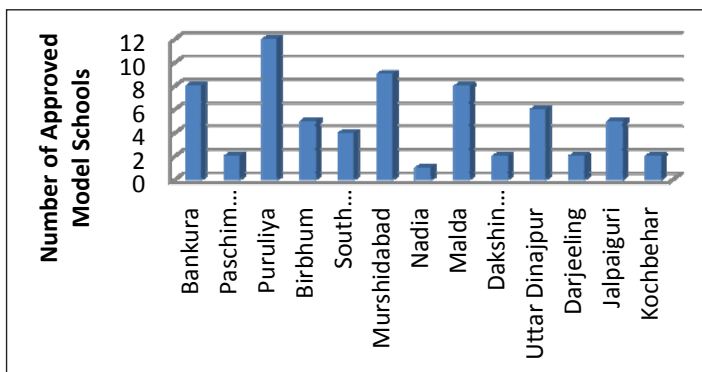


Fig. 2: District wise allocation of Model Schools in West Bengal

Source: hrd.gov.in/model_school

From the above diagram it can be seen that Puruliya has received highest number of schools and Nadia has received the least number. Paschim Medinipur though has high proportion of backward area still it has not received much attention under this scheme. During 2013-14 no schools were approved for the state. Presently around 57 schools are functional.

Prospects and challenges of Model Schools

One of the postulates of such schools was to follow English as the medium of instruction. This is a great opportunity for the low income group people and people of the backward regions to learn and communicate in English which is the most popular language all over the world. This would help to maintain equal opportunities and universal access to education Funds are available for infrastructural developments like school buildings, toilets, library, playground etc. A sum of ₹ 137.56 crores have been disbursed from non- recurring grants for the development of these schools. As most of these schools are placed in the remote part of the districts so availability of space is not a problem and various types of co-curricular activities can be undertaken. Indigenous knowledge can also be incorporated which would help the students to relate their immediate environment with the curriculum and school activities. The teachers are appointed through proper state appointment norms which also help to maintain the teaching standard.

But these schools are also facing some challenges. The most important fact is the school intake is from class six onwards. So if the students have read till class six in their regional language it becomes extremely difficult for them to cope in English medium of instruction. Government of West Bengal realized this problem and gave consent to study in the regional language in the model schools. But by doing so, the norm of equality is getting hampered and students will not be able to utilize the opportunity to learn English. Next major challenge is most of the students are first generation learners. So, to maintain the standard of education they need guidance even after school hours. Most of the model schools do not have proper functional hostels. To make the goal to set model schools successful hostels are very important where all round development of the students can be taken care of. As the schools are remotely placed accessibility is a major drawback for both the students and the teachers till the hostels become functional. The schools are usually under staffed and in the beginning the schools were started with retired teachers. It is extremely difficult for such retired teachers to undertake a new school and work for its all-round development.

CONCLUSION

After studying the various components of this scheme it can be recommended that if these schools start from the elementary level in English medium then this would be highly beneficial for the deprived section of the society. Moreover the schools should be made residential both for the teachers and the students so that the problem of communication and lack of accessibility can be avoided. Lately central government has declared that “The Model School Scheme has been delinked from the support of the Government of India and as such the scheme stands transferred to States/UTs for further appropriate action.” This makes the condition of these schools uncertain as they were under dual responsibility regarding contribution of funds for its development.

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Status and Scope of Organic Agriculture in India

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ABSTRACT

Organic agriculture can become low cost, sustainable option of farming in the country, particularly by the small farmers in rain fed areas and helps to improve their food and income security. It helps to produce and supply adequate safe and nutritious food to the producers and consumers of the nation. Environmental benefits, health aspects and farmers empowerment are other important factors influencing farmers to shift to organic agriculture. Some of the important benefits of organic farming are Organic fertilizers are completely safe and does not produces harmful chemical compounds. The demand for organic products is growing fast (at the rate of 20 per cent per annum) in the major developed countries. With 835,000 certified organic producers, India is home to more than 30 per cent of total number of organic producers (2.7 million) in the world, engaging nearly 5.5 Million ha area. Holistic approach is required to positively contribute to the cause of human, livestock and ecosystem health, fulfilling the basic objective of organic agriculture.

Keywords: Organic farming, certified organic producer, marketing, nutritious food

INTRODUCTION

Sustainable agriculture is necessary to attain the goal of sustainable development. According to the Food and Agriculture Organization (FAO), sustainable agriculture “is the successful management of resources for agriculture to satisfy changing human needs while maintaining or enhancing the quality of environment and conserving natural resources”. Organic farming system relies on crop rotations, crop residues, animal manures, legumes, green manures, safe off-farm organic wastes and aspects of biological pest control to maintain soil productivity and tilth, to supply plant nutrients and to control insects, weeds and other pests. In its simplistic form, organic agriculture may be defined as “a kind of diversified agriculture wherein crops and livestock are managed through use of integrated technologies with preference to depend on resources available either at farm or locally”. The expansion of modern, resource-intensive agriculture has multiplied yields of the world’s major crops (FAOSTAT,

2011). This increase has been achieved at the expense of costly high-energy inputs and unwanted environmental effects such as nutrient losses, soil degradation, and compromised biodiversity (Tilman *et al.* 2001). Organic agriculture, on the other hand, comprises a set of management practices aimed at environmentally friendly production by avoiding the use of synthetic fertilizers and pesticides and by strong reliance on closed on-farm nutrient cycling, including biological nitrogen fixation and crop rotations, to support soil fertility by enhancing soil organic matter content. Its current per-area contribution of 0.037 Gha is still small relative to the 4.9 Gha agricultural land worldwide, but this is continuously increasing (FIBL and IFOAM, 2011). Organic farming has attracted increasing attention in recent decades as a means to sustain agricultural production while addressing the environmental problems caused by conventional agricultural methods (Haring *et al.* 2004). Organic farming is one of the several approaches found to meet the objectives of sustainable agriculture. Many techniques used in organic farming like inter-cropping, mulching and integration of crops and livestock are not alien to various agriculture systems including the traditional agriculture practiced in old countries like India (Gaur, 2016). Organic farming is one of the widely used methods, which is thought of as the best alternative to avoid the ill effects of chemical farming. There are several definitions of organic farming and the one given by the US Department of Agriculture (USDA) is considered the most coherent and stringent. Organic farming can play an important role for socio economic development and to make villages self sustainable. Degradation of environmental quality and food safety concerns due to excess use of fertilizers promoted the organic farming in recent decades (Lapple and Cullinan, 2012). The International Federation of Organic Agriculture Movements (IFOAM) described the organic agriculture in the following way: “Organic agriculture is a production system that sustains the health of soils, ecosystems and people. It relies on ecological processes, biodiversity and cycles adapted to local conditions, rather than the use of inputs with adverse effects. According to National Program on Organic Production (NPOP) in India “Organic agriculture is a system of farm design and management to create an eco-system which can achieve sustainable productivity without the use of artificial external inputs such as chemical fertilizers and pesticides.

Under these circumstances, there was a need to search the potential of organic farming in our country as the practice was emerging in several countries all over the world for the last two decades. India also started its journey towards organic farming to meet domestic and export need of organic produce during end of last century.

Farmers Adaptation in Organic Agriculture

In the context of organic farming, spatial dependence is important for several reasons: first, organic farming is an information-intensive farming technique and often farmers obtain technical information by communicating with other organic farmers (Padel, 2001). Second, social norms in terms of views of other farmers on organic agriculture can either constrain or assist adoption. Lapple and Kelley (2013) found that farmers’

intentions to convert to organic farming are influenced by their own but, more importantly, by their important others' attitudes and views on organic farming. Results are of particular relevance for policy-makers, as their findings suggest new avenues for increasing the uptake of organic farming, which is a policy objective within Ireland's agri-food growth targets (DAFM, 2010). In general, farmers develop an opinion about organic farming that determines whether the farmer will adopt or not. Thus, for example, in an area where organic farming is a widespread and well-accepted farming method, farmers may be positively influenced to adopt or vice versa. Obviously, a widespread uptake of organic farming in one area can also be influenced by favourable geographic or economic conditions.

Organic agriculture is a unique production management system which largely excludes the use of synthetic inputs (such as fertilizers, pesticides, hormones, food additives etc.) and to the maximum extent feasible rely upon crop rotations, crop residues, animal manures, off-farm organic waste, mineral grade rock additives and biological system of nutrient mobilization and plant protection. Organic systems, in contrast, use a strategically different approach, which relies on longer-term solutions (preventative rather than reactive) at the systems level. An example of this is the importance of rotation design for nutrient cycling and conservation and weed, pest and disease control (Stockdale *et al.* 2001). Four approaches of organic farming as advocated by International Federation of Agriculture Movement (IFOAM, 2015).

Basic Components of Organic Farming

The farming system is the main component of organic farming, but the major trusty sector is crop which including crop rotation, maintenance and enhancement of soil fertility through biological nitrogen fixation, addition of organic manure and use of soil microorganisms, crop residues, bio-pesticide, biogas slurry, waste etc. Vermiculture has become a major component in biological farming, which is found to be effective in enhancing the soil fertility and producing large numbers of horticultural crops in a sustainable manner. Essential components of organic farming are keeping the soil alive through effective management natural resources. They are as follows; (a) Enrichment of soil, (b) Management of temperature, (c) Conservation of soil and rain water (d) Harvesting of sun energy, (e) Use of renewable energy (f) Integration of animals (g) Maintenance of life forms (h) Self-reliance in inputs (Musa *et al.* 2015). (Watson *et al.* 2002; Fig. 1) illustrates conceptually the complexity of the relationships between soil fertility and the different components within organic system and outside the system that may influence it.

The organizational structures supporting smallholder organic agriculture in India fall into four forms: (1) farmers organized by a company, (2) farmers operating under NGO initiatives, (3) farmers organized or facilitated by government, and (4) farmers forming their own organizations (cooperatives, associations, self-help groups, etc) (Deshmukh and Babar, 2015).

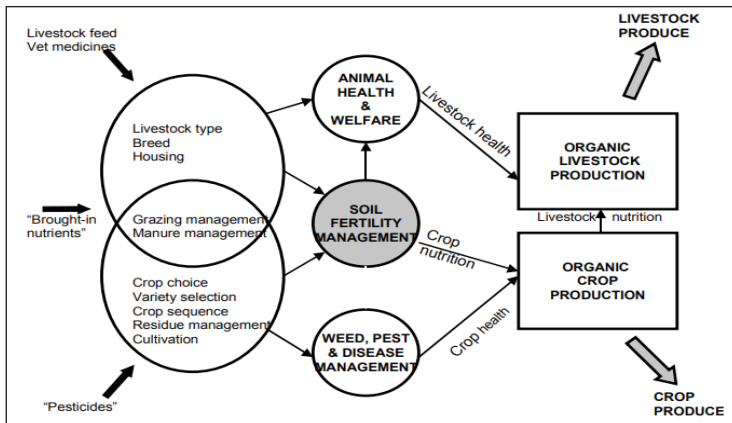


Fig. 1: The interactions between soil fertility and crop and animal productivity in organic farming systems (Watson *et al.* 2002)

The organic community has adopted four basic principles (FAO 2001/ IFOAM), and broadly speaking, any system using the methods of organic agriculture and being based on these principles, may be classified as organic agriculture (Table 1).

Table 1: Basic principles of organic agriculture

<i>Principles</i>	<i>Description</i>
Principle of fairness	Pillar 1: Sustainable and equitable socioeconomic development
Principle of care	Pillar 2: Preservation and promotion of cultural values
Principle of ecology	Pillar 3: Preservation of environment
Principle of health	Pillar 4: Good governance certification

Source: (FAO 2001/ IFOAM).

Need of Organic Farming

During the post Green Revolution period, the production of food grains has increased four-folds, from 50.82 million tons in 1950-51 to 265.57 million tons on 2013-14. But indiscriminate and excessive use of chemicals during this period has put forth a question mark on sustainability of agriculture in the long run calling attention for sustainable agricultural production. To fulfill and address social, ecological and economical issues together organic farming plays a vital role. With the increase in population our compulsion would be not only to stabilize agricultural production but to increase it further in sustainable manner. Organic farming is supposed to be environmentally friendly due to abandonment of external inputs such as mineral fertilizers or pesticides. Co-benefits claimed lately for organic agriculture are reduced nitrogen losses to the environment and, more importantly, enhanced soil carbon sequestration, which together may offset between 60 and 92% of contemporary agricultural greenhouse

gas emissions if all land were converted to organic practices (Scialabba and Müller-Lindenlauf, 2010). The sustainability of organic farming in the past has been that the production of the same amount of cash crops in organic farming may need between 16 and 100% more area compared to high-input conventional agriculture (Leifeld, 2012). Management of soil organic matter, primarily through the use of short-term leys, helps ensure good soil structure and biological activity, important for nutrient supply, health and productivity of both crops and livestock. Carefully planned diverse rotations help reduce the incidence of pests and diseases and allow for cultural methods of weed control (Watson *et al.* 2002).

Organic Agriculture Scenario in Indian Context

India is one of the agricultural based country, wherein more than two third of the population depends to agricultural sector. The share of agriculture in the Gross Domestic Product (GDP) has been registered a steady decline from 50% in 1950-51 to 12.5% in 2014-15 (Anonymous, 2015). More than 60% of India's arable land is under traditional agriculture, where no synthetic inputs are being used. 11th plan document on organic sector and the report of the National Commission on farmers have recommended it as a tool for second green revolution in the country in particular for agro-eco zones comprising rain fed areas, hilly areas and areas experiencing ecological backlash of green revolution. According to (NPOFA) report among all the states in India, Uttar Pradesh has highest area (2.59 million hectares) under organic farming followed by Himachal Pradesh, Madhya Pradesh and Maharashtra in 2011-12 (Table 1). In terms of organic production, Orissa rank first 29016450 MT, followed by Maharashtra and Rajasthan. However in terms of yield Orissa rank first followed by Meghalaya Maharashtra etc. Among all the states, Orissa has highest production and yield of organic crops followed by Maharashtra in India during 2011-12 (Table 2).

Table 2: State-wise area and production under organic farming (2011-12)

State	Area (ha)	% of share	Production (mt)	% of share	Yield (mt/ha)	Rank of an Area
Andhra Pradesh	47456.77	0.86	3658.43	0.012	0.08	10
Chhattisgarh	299970.6	5.40	3153.66	0.011	0.01	5
Goa	153684.6	2.77	156.65	0.001	0.00	8
Gujarat	41978.94	0.76	9859.58	0.033	0.23	12
Himachal Pradesh	933798.2	16.82	472.43	0.002	0.00	2
Kerala	15790.49	0.28	12277.72	0.042	0.78	15
Madhya Pradesh	432129.5	7.79	83404.75	0.282	0.19	3
Maharashtra	245339.3	4.42	2117740.8	0.716	0.86	6
Mehalaya	288.23	0.01	9654.38	0.033	33.50	16
Orissa	43868.18	0.79	29016450	98.082	661.45	11
Rajasthan	222319.1	4.01	138635.8	0.469	0.62	7

Sikkim	25716.55	0.46	4121.78	0.014	0.16	14
Tamil Nadu	38554.33	0.69	19797.66	0.067	0.51	13
Uttar Pradesh	2593821	46.73	27526.75	0.093	0.01	1
Uttarakhand	122880.6	2.21	22439.79	0.076	0.18	9
Others	332809.03	6.00	20492.55	0.069	0.06	8
Total	5550405	100	29583843	100.0	5.33	—

Source: National Project on Organic Farming Annual Report 2012-2013.

The share of organic food was highest in USA (36.9%), followed by Germany (11.76%), France (6.65%), and china (3.69%) during 2013. Moreover India's contribution was 0.2% in total global sales of organic food in 2013 (Table 3).

Table 3: Leading countries share of organic food market in 2013

<i>Country</i>	<i>Retail sales in million Euros</i>	<i>% of share</i>
USA	24347	36.95
Germany	7750	11.76
France	4380	6.65
China	2430	3.69
Canada	2375	3.60
UK	2065	3.13
Italy	2020	3.07
Switzerland	1668	2.53
Austria	1065	1.62
Sweden	1018	1.54
India	130	0.20
Total	65897.84	100

Source: FIBL- AMI Organic Data Network Survey- 2015.

Although, the products grown under such systems have so far not been defined as organic products but by all mean they are genuine organic products. This will also go a long way in alleviating poverty and raising the living standards of the poor villagers. Most of the agriculture in backward and tribal areas especially in the hills of northern, eastern and northeastern region could be safely classified as organic.

Market Importance

Organic food market in India is highly unorganized and fragmented, which offers immense growth opportunities for domestic as well as international players. India has the largest number of organic producers in the world, according to the World of Organic Agriculture Report 2018 published in February. With 835,000 certified organic producers, it is home to more than 30 per cent of total number of organic producers

(2.7 million) in the world. Area under certified organic cultivation, India contributes only 2.59 per cent (1.5 million hectares) of the total area (57.8 million hectares). The 19th edition of the World of Organic Agriculture report claimed that organic agriculture area, and its products value has increased. The data was collected from 178 countries by the research Institute of Organic Agriculture (FiBL), the State of Sustainability Initiative (SSI), and International Trade Center.

India mainly exports organic processed food products, organic rice, beverages and other cereals and millets to US, Canada, Europe, and South East Asian countries. India is 10th leading country in the world in terms of organic certification. In terms of wild collection, India ranks 3rd next to Finland and Zambia. Around 6.50 lakhs producers are engaged in the country in various forms. There are 6.5 lakh producers and 362 exporters who are associated with organic production and exports in India. Indian organic farming industry is almost entirely export oriented, running as contract farming under financial agreement with contracting firms. Moreover majority of farmers in India are opting this practice motivated by attractive markets and price margins (Sharma, 2001). According to (FiBL-AMI) India's total area under organic certification is 4.72 million hectare in 2013-14 and its global rank is 10th. The CGR of cultivation of organic area of India is 11.52% of which wild collection is 12.57% and remaining area is 7.45% during 2005-2013. The co-efficient of variation is approx 0.5% during same period. Compound growth rate of export quantity of organic products of India is 51.50% and export value is 11.75% during 2002-03 to 2013-14 (Table 4).

Table: 4 Growth of organic area in India (2005-2013)

<i>Year</i>	<i>Organic Area Annual (A)</i>	<i>growth rate</i>	<i>Wild collection (B)</i>	<i>Annual growth rate</i>	<i>Total Organic Area (A+B)</i>	<i>Annual growth rate</i>
2005	185937	—	2385963	—	2571900	—
2006	432259	132.48	2385963	0.00	2818222	9.58
2007	1030311	138.36	1769689	-25.83	2800000	-0.65
2008	1018000	-1.19	2781530	57.18	3799530	35.70
2009	1180000	15.91	3360000	20.80	4540000	19.49
2010	780000	-33.90	3650000	8.63	4430000	-2.42
2011	1084266	39.01	4477526	22.67	5561792	25.55
2012	500000	-53.89	4700000	4.97	5200000	-6.50
2013	510000	2.00	5180000	10.21	5690000	9.42
CGR	7.45	—	12.87	—	11.52	—
CV	0.59	—	0.55	—	0.53	—

Source: FiBL-AMI Organic data network survey 2000-2015.

In 2009, FAO, IFOAM and the United Nations Conference on Trade and Development (UNCTAD) started the Global Organic Market Access (GOMA) project. The International Competence Centre for Organic Agriculture (ICCOA) estimated that the domestic market for organic products in the year 2011-12 was ₹ 300 crore and grew to

₹ 600 crore in 2012-13 i.e. a growth rate of 100%. The global organic food market size is of 63.8 billion USD (2013-14). India's total export of organic agricultural products in 2013-14 was of 220.47 million USD. It is important to mention that India's share in the global food market is less than a per cent and there is a huge potential to explore the new arena. With the phenomenal growth in area under organic management and growing demand for wild harvest products India has emerged as the single largest country with highest arable cultivated land under organic management. India has also achieved the status of single largest country in terms of total area under certified organic wild harvest collection. Besides, India had achieved the status of largest organic cotton grower in the world, with more than 50 per cent of total world's organic cotton. By 2009 India had brought more than 9.2 million ha of land under certification and it has been increased further. Present status of certified organic farming in India during 2013-14 in Table 5 & 6.

Table 5: Overview status of organic farm in India (2013).

Total production	585970 M.T.
Total quantity exported	19456 M.T.
Value of total export	₹ 30124 Lakhs
Total area under certified organic cultivation	339113 Ha.
Number of Farmers	141904
Percentage of export	4

Source: TNAU-2013.

Table 6: Status of certified organic farming in India (2014)

Area under organic certification	4.72 m ha
Cultivated Area	0.72 m ha
Forest Area	4.00 m ha
Organic Certified Production	1.24 million MT
Cultivable Production	1.23 m MT
Wild Collection	0.01 m MT
Accredited inspection and certifying agencies	25
Major countries for export	U.S.A., European Union, Canada, Switzerland, Australia, New Zealand, South East Asian countries, Middle east, South Africa

Source: APEDA, 2015.

India has now become a leading supplier of organic herbs, organic spices and organic basmati rice. The exports about a half of the organic food produced in India. The major organic products exported from India are tea, pulses, sugar, Basmati rice, oilseeds (sesame and soybean) spices, cotton, medicinal plants and herbs, processed foods and dry fruits. India exports around 135 organic products of which the share of oil crops in total organic export quantity was (26.74%) followed by cotton (24.48%) basmati rice

(11.81%) in 2013-14. India is one of the most important producers of organic food. Table 5 reveals the 18 categories of organic products out of 135 organic products have been exported in various countries. The share of export volume of soybean crop from India was highest (70%), followed by cereals and basmati rice 6%, Processed food products (5%) and sugar 3% during the period of 2013-14 (APEDA, 2014; Fig. 2).

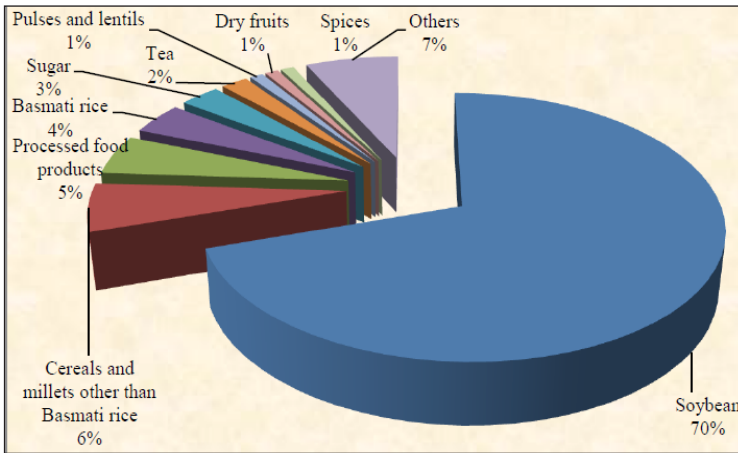


Fig. 2: Share of commodities in organic export during 2013-14, (APEDA, 2015)

Site Identify for Organic Farming

Sharma (2003) makes a case for organic farming as the most widely recognized alternative farming system to the conventional one. Mishra *et al.* (2015) identify the suitable zones in the state for the development of the organic farming using Analytical Hierarchy Process (AHP) and Geospatial techniques in Uttarakhand and beneficial results the study needs to be focused on some specific species like medicinal plants, which have great economic value and covers scope of development of rural tourism too (Fig. 3).

A survey (2008-09) was made on certified organic farm in the country to ascertain the real benefits and feasibility of organic farming in terms of the production potential, economic and soil health in comparison to the conventional farms. Revealed that

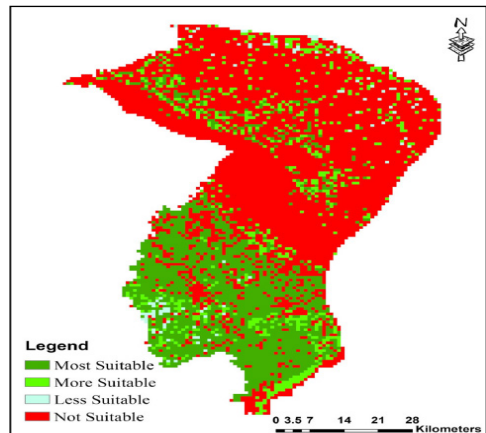


Fig. 3: Suitability map for the organic farming in Uttarakhand (Mishra, *et al.* 2015).

organic farming, in spite of the reduction in crop productivity by 9.2%, provided higher net profit to farmers by 22.0% compared the conventional farming (Ramesh, *et al.* 2010).

In terms of wild collection, India ranks 3rd next to Finland and Zambia. Around 6.50 lakhs producers are engaged in the country in various forms. Presently only 0.51% of area (including wild collection) is under the process of certification. Sikkim has the highest 79% of net sown area under organic certification while Madhya Pradesh is having largest area (232887 ha) under organic production system (Table 7).

Table 7: Top 10 states of India in terms of actual area (ha) and % of net sown area under organic farming (2013-14)

State	Actual area		State	% of net sown area		
	Net sown area (000 ha)	Area under organic certification in 2013-14 (ha)		Net sown area	Area under organic certification in 2013-14 (ha)	Net sown area
Madhya Pradesh	15119	232887	Sikkim	77	60843	79.0
Maharashtra	17406	85536	Goa	131	12853	9.8
Rajasthan	18349	66020	Uttarakhand	723	24739	3.4
Sikkim	77	60843	A & N Island	15	321	2.1
Odisha	4682	49813	Madhya Pradesh	15119	232887	1.5
Gujarat	10302	46863	Nagaland	362	5168	1.4
Uttar Pradesh	16593	44670	Jammu & Kashmir	732	10035	1.3
Karnataka	10523	307716	Odisha	4682	49813	1.0
Uttarakhand	723	24739	Himachal Pradesh	539	4686	0.8
Kerala	2072	15020	Kerala	2072	15020	0.7
All India	141515	723039	All India	141515	723039	0.5

Source: Anonymous, 2015.

Advantages

In India benefits of organic agriculture in three types, there are ecological, social and economic sustainability. The roles of organic farming in Indian rural economy can be leveraged to mitigate the ever-increasing problem of food security in India. Organic farming is a science of agriculture that utilizes the biological means of cultivating crops with a coordination to the nature. Organic farming also lowers the nitrogen losses from soil and enhances soil carbon sequestration (Leifeld, 2012). Scialabba (2007) the strongest benefits of organic agriculture are its reliance on fossil fuel independent, locally available resources that incur minimal agro-ecological stresses and are cost-effective. She describes organic agriculture as neo-traditional food system, which combines modern science as well as indigenous knowledge.

- ❑ In an organic farm especially in lowlands, a number of wildlife is supported and thus improving the entire ecosystem and ground water which is quite beneficial for agriculture practices.
- ❑ Apart from all the other benefits one of the most important benefits of organic farming is the health benefits of organic foods.
- ❑ Organic farming promotes the fertility of the soil along with retaining it due to the use of biological manures and useful micro organism that helps to increase the fertility of the soil by proper decomposition and stimulation of nitrogen fixation
- ❑ The use of organic farming reduces the soil erosion to 50 percent leading to the increase in the productive to five times in five years.
- ❑ The production cost can be reduced to over 25 percent in comparison to the traditional farming as in case of organic farming you can cut the cost incurred in the use of synthetic fertilizers, herbicides and pesticides.
- ❑ Increase household income from higher-value agricultural products sold in the market; improved nutrition due to higher-quality food consumed in the households; and a stronger base of agricultural and organizational knowledge and capabilities.
- ❑ Avoiding/ minimizing synthetic inputs at all stages of the organic product chain and exposure of people and the environment to persistent, potentially harmful chemicals.
- ❑ Minimizing pollution and degradation of the production/ processing unit and surrounding environment from production/ processing activities . Excluding certain unproven, unnatural and harmful technologies from the system
- ❑ Organic farming is environment friendly, sustainable, healthy and can reduce many existing challenges that our countries are currently facing like shortage of power and water contamination. Organic farming is not only a production method but it is a system that strengthens the social bondage and unity in a community.
- ❑ To support the establishment of an entire production, processing and distribution chain which is both socially and ecologically responsible.
- ❑ To recognize the importance of, and protect and learn from, indigenous knowledge and traditional farming systems (NABARD, 2005).

India can enjoy a number of benefits from the adoption of organic farming. The price premiums for the products, conservation of the natural resources in terms of improved soil fertility and water quality, prevention of soil erosion, preservation of natural and agro-biodiversity are major benefits. Economic and social benefits like generation of rural employment, lower urban migration, improved household nutrition, local food security and reduced dependence on external inputs will be large gains in the Indian

conditions. The protection of environment and the consequent increase in the quality of human life will be other contributions of organic farming (Maitra and Zaman, 2015)

Current Organic Farming Scenario

The organic agriculture sector is today the fastest growing food sector. India has the potential to become a major organic producing country given the international demand for our farm products, different agro-climatic regions for the cultivation of a number of crops, the size of the domestic market and above all the long tradition of environment friendly farming and living. However, at the same time increasing health consciousness and increasing disposable income among Indians is ceaselessly increasing the demand for organic food. Organic agriculture is gaining momentum as an alternative method to the modern system. The role of the major food retailing chains in promoting the growth of the market for organic food is crucial. These chains now account for a major share of the retail markets for fresh as well as processed foods, so large-scale market access for organic foods depends on securing shelf-space in this type of outlet. The development of organic agriculture will not be linear but responsive to technological innovations due to unforeseen factors that will challenge agricultural development as a whole (Scialabba, 2001). Nutrition and livelihood are two factors that contribute significantly to an individual's health. Consumers world-wise are becoming health conscious and are concerned about nutrition. For instance, Sikkim recently became the first Indian state to go fully organic, nearly 67 per cent of the population is engaged in agriculture on 50,000 hectares of land that was transformed to organic farming in Sikkim Organic Mission (SOM).

This has inspired other States to follow suit and have announced detailed policies for organic farming. Indian Council of Agricultural Research (ICAR) provides research and technological back up in the country. Different parts of India have developed their own local or regional systems for ecological agriculture such as *agnihotra* and *panchakavya* that are now gathered in one umbrella term '*Jaivic Krishi*' or '*Jaivik Kheti*'. However, recently NPOF, NCOF and some state Govt. Trying to motivate farmers and training also being conducted. Emphasis given on Crops of Rain-fed, dry land areas, problem soils, hill states, Hort. Crops, fishery, Medicinal plants, Orchids, and flowers, Fruits, Tea, Coffee etc.

Challenges

Organic farming is fast assuming the new face of Indian agriculture. It needs to overcome challenges at policy, commercial and infrastructural levels such as:

- ❑ Global demand of organic foods and Expansion of area increasing: Small farmers of most developing countries are interested much for premium prices of org. Foods by export to Europe and North America; but total area covered still Very low (0.1 to 13.4 %) due to many problems and challenges.

- ❑ High pressure of global population hunger (7 billion) demanding more and more production of food even at less care to quality, soil health and environmental sanctity by conventional farming, Resulting slow progress.
- ❑ Conventional Industrial Agriculture give high yield, but no sustainability profit margin-low, cause Eco-degradation-5 million ha unproductive/yr; decreasing trend of productivity-11.9-13.4%; bio-organic soil highly deteriorating in flora, fauna, loss of nutrients etc.
- ❑ Absence of animals and animal-manures, low availability of organic refuses, reduced Biodiversity.
- ❑ Extension education, promotional training, absent and Poor. Certification not simple and costly affair to farmer, Absence of incentive & support. Contract farming absent or not encouraged, Domestic and Export markets not developed in many countries.

Constraints of Organic Farming

Marketing plays vital role in development of organic agriculture in any country. Marketing organically grown crops, fruits, vegetables, flowers and herbs is not fundamentally different than marketing similar produce grown under a more “conventional” production regimen (Salvador and and Katke 2003). The major issues related to marketing of organic products can be as follows: Lack of reliable supply chain, Lack of sufficient retail chains, Limited size of domestic market, Lack the skills and creativity to find profitable markets, Produce aggregation costs for distributed small growers and Certification complexities etc.

According to Deshmukh and Babar (2015) Farmers’ apprehension lies in non-availability of sufficient amount of organic supplements, bio-fertilizers and local market for organic produce. Additionally, lack of knowledge, lack of financial support, lack of access to guidelines, lack of market information and vocational training, risk of low yield, vested interest, shortage of bio-mass, certification and input cost coupled with capital-driven regulation by contracting firms strongly discourage small farm holders who constitute over 80% of farming community in India.

CONCLUSION

Organic agriculture is gaining momentum as an alternative method to the modern system. Many countries have been able to convert 2-10 per cent of their cultivated areas into organic farming. Organic agriculture can become low cost, sustainable option of farming in the country, particularly by the small farmers in rain fed areas and helps to improve their food and income security. It helps to produce and supply adequate safe and nutritious food to the producers and consumers of the nation. Environmental benefits, health aspects and farmers empowerment are other important factors influencing farmers to shift to organic agriculture. Some of the important

benefits of organic farming are Organic fertilizers are completely safe and does not produces harmful chemical compounds. The demand for organic products is growing fast (at the rate of 20 per cent per annum) in the major developed countries. From ecological point of view, it may be stated that eco-friendly and sustainable approach of organic farming will give self-reliance and stable livelihood to the vulnerable farming community of India. Further, accelerated adoption of “towards organic” (integrated crop management) approach for intensive agricultural areas (food hubs) and “certified organic farming” with combination of tradition, innovation and science in the defacto organic areas (hills) and rainfed/ dryland regions will contribute towards safe food security and climate resilience, besides increased income of farm households. This approach will also positively contribute to the cause of human, livestock and ecosystem health, the basic objective of organic agriculture.

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Modern Education and Development: Buddhist Perspective

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ABSTRACT

Buddhist education was appeared to remove the social chaos. The Buddhist teaching and learning systems prevailed then at the time of the Buddha was perfect to develop an individual and the whole human community. This is still relevant to perplexed societies and more useful than ever before due to the changes going hastily around in the large scale just to accomplish the selfish ideas of we so called as 'human kind'. Education is the only tool which can correct the incorrect practices going around in the society in the name of person, his thoughts, traditions, parties, and the systems of treatment to body, speech and mind of the patient like human. In other words, religion, faith, culture, custom, celebrations, ceremonies, etc., may be different from person to person. But, the roots of good education tie them in one home, the home of globe. This is the right place to live in for both animated and non-animated beings due to their merit of previous and present luck and chances. So, its adequate security, sustainability, development etc., are some extent depends on the heads, hands and hearts of human beings of today.

Keywords: Buddhist education, human kind, Buddhist teaching and learning systems

INTRODUCTION

Without a pure mind and noble intention, whatever the actions that we do by our *body*, *speech* and *mind* in our daily life will be not bear any good result at all. Being a human our education should focused on the purification and development of above three doors of our actions that lead out the life either to progress and pleasure or downfall and pain, the suffering (Dukha) as said by the Buddha. It is the core and crust of Buddhist education system as expounded by the Buddha *Śākyamuni*, the founder of Buddhism in ancient India. In this regard, the *Dhammapada* reveals, *Sabba Pāpassa akaraṇaṃ kusalassa upasampadā*.

*Sacitta pariyodapanam etaṃ buddhāna sāsanaṃ.*¹

¹Chapter XIV, Buddha Vagga, Verse No. 5

(Do not do any evil action; do all the good things, tame one's own mind completely, this is the teaching (education) of the Buddhas).

Buddhist education system is formed for the development of our inherent skill or talents. Welfare of other is the core motive, view and conducts of the Buddha's teachings which are very clear and balanced in all respects of life. It has more than 2560 years old history, culture and education system, tradition, faith etc., are still relevant in the age of modern world order. Buddhist believes that education is not only a tool to physical or external development but also the internal or spiritual development of the human being, who has all such qualities, opportunities, and potentialities rather than other living beings.

The imparting good education to the younger generation is the great duty of teachers, parents, community and the whole nations of the world. With the help of good, healthy or quality education system we can cope up with their common minimum and maximum problems and inevitable issues such as proper and healthy food, safe shelter, desirable health care, hygienic sanitation facilities, safe and pure drinking water, clean environment, educational facilities, economic development, preservation of their culture and heritages, development of the sense of brotherhood, love all and serve all as motto of spirituality and modernity and so on. No doubt, education can improve the life status of people living in both rural and urban areas of the world.

Education

The sense of education commenced from one's own home, which is the best school of every good or bad facets of education and teaching in a life. Education a noun, originated from Latin word 'educare', which means 'lead out'. So, it is called to the process of teaching or learning.² In other term, education means the development and training of one's mind, character, skills, etc., as by instruction, study, or example.³

Education can give more powers to human skills to achieve the goal of true human kind as living either in the family or society and practice of spirituality as an individually to benefitted to sentient beings in terms of plurality. So, for the cause of massive welfare, good education is very important and without it, all are just utopians. Education is backbone of human civilization, culture, identity and history. But the excessive materialistic development and inclusion of modern disciplines in the domain of education the old noble cultures of education is now vanishing and endangered for healthy and sustainable survival of all living beings. Our modern education is prepared and planned for gain in short term of life while ancient educational systems were planned and prepared for long term gain of all beings.

²*Compact Oxford English Dictionary, Revised Third Edition, 2016, pg. 317.*

³*Webster's Student Dictionary of the English Language, Trident Press International, Revised Edition, 1996, pg. 225.*

Modern Education

Ancient educational systems are thrown away by so called as modern generation for sake of modern education. Was it made the blunders of our near past scholars, educationists, leaders, socialists and nationalists etc., who have introduced the various micro-level of fields and structural studies among the youths and youngsters? Are all they offering a job oriented educations; whether it is concerned to academic qualifications, vocational trainings, periodical courses, new schemes and plans initiated by both national and state governments from time to time, orientation programmes, research and workshops etc., and after all can that education system creates a good human society? Who will give the assurance and what will be the parameters? Obviously, none from the outside of world society, solution is within the framework of our society that we need to work sincerely, honestly, and co-operatively for all our common problems.

So, majority of young scholars are in a dilemma that what to do with this education even scoring excellent marks, grades and having high degrees in the diversity and dynamic domains of modern educational disciplines. Are we jeopardizing the intrinsic good characters of our budding generation just imparting such kind of educations concerned to avail the jobs and package jobs as the trend is increasing swiftly across the world today? Are we not diverting their attentions from the valuable purpose of getting human life and its mission to become good human being? Are we not increasing the rate of intellectual literate society having with bundle of degrees rather to educate the rare human species? And who has a right opportunity to be god or devil with proper education and without proper education respectively. If it is so, then are we not spoiling ourselves but also the kindness earth, the mother of all sentient beings? Because, its safety in the hands of human kind rather than nature today. So, we need modern education to construct the life in a positive way but not needed to destruct the life by wars and nuclear weapons.

Precisely, the modern education system has filled up all the blanks with massive information and things in the name of population, power, publicity, property and progress. Simultaneously, we are facing lots of problems like, where to keep, how to care, and how much safe and secure this uncertain life, what's the guaranty and warranty etc., by having all sorts of mentioned things to make a happy and peaceful life in one human race of a global family today. So, what should be the purpose of education in the modern era to a human being as a sensible entity of the world-society? The current education system has given quite enough to our physical body in terms of physical health care, treatment, healing systems, good food, good clothes, shelters etc., and definitely, very little to purification of our speech and very least to the mind. The country like India which has glorious her past and housed thousands tangible cultural, spiritual, and educational institutions that had taught and torched to the world with such teachings like great love, kindness, goodwill, compassion, non-violence, self-reliant, self-dependent, generosity, moral discipline, tolerance, meditation, wisdom and so on. Where can we find all these characters in our modern education and its

current systems? What we expect from our youths and youngsters having the abilities but lacking the attitudes, emotions, sense of relationships, bonding, caring, helping, sociable, and so forth. What good and great things we expected from them when we are giving them least from our own structure of good or quality of education today.

Our ancient education-system was self-realization not something imposed by the power, government, and authority. So, they could achieved the highest goal of human life, the purification and enlightenment, peace and happiness, contentment and honesty etc., by lacking all materialistic facilities in the life. Thus, our ancestors learned scholars had never introduced and implemented such micro-level of disciplines for studies and use all external resources to live a comfortable life through their own education. It doesn't means that they were not aware of the facts of micro-levels of learning at then and later coming eras. If they had given importance to them then think, how much so far our life had changed earlier, perhaps more early than the so called progressed countries of the world today. Therefore, they have not given much importance to the applied sciences of the world that has changed only the destiny of human beings but not the destination, the happiness, peace, exalted wisdom, and perfect enlightenment. Indeed, they were true educated, great visionaries, deep thinkers, and broad minded as well as practical beings in all their teachings in a life. They knew the impact of modern pattern of education that has no long way to go. They are kinds of short term courses to amuse and provide allurements. Their consequences are also confined for a short-termed and less effective. Definitely, they will not exist in the long term to educate human beings to get rid from pain and problems of the cyclic existence. Being a sensible human, we have to ponder about the shortcomings of our life and its true goal. It was the reason, they have not given much emphasize on learning and teaching of our modern subjects and many interdisciplinary and multidisciplinary subjects which are introduced in our schools, colleges, and universities today.

The modern education system has changed the perception of human life from postal to digital, travel earth to moon, womb birth to test tube, faster journey in the sky and space, thatched house to multiplexed and multi-stored flats, equipped with all facilities, wheel cart to superfast trains like bullet trains, simple man to superman, weak to strong, poor to prosperous etc., that all can have in a single life. Modern education is based on the notion of useful as well as the word phrases like pass and fail, use and throw, hire and fire, praise and punish, publish or perish, do or die, success and failure, etc. Therefore, it is neither perfect, nor final, but only useful as long as the life exists in the cyclic existence.

In one hand, all the resources are already available in the nature of society. On the other hand our skill and attempt is merely to systematize them in an easy order. We put the patches wherever it required and again present it in front of the public with proud by uttering that this is my contribution in so and such field. We admire our ideas as an innovative and create a utopian life for self and others. Certainly, we must feel proud on our discoveries of goods and gadgets. But who will responsible for our stresses and

problems come out from them an immediate and later in a life. Today, every plan and programme is being prepared to live a life only on online mode. It is another challenge as increasing in the domain of public markets, trade, business, education, etc. Of course, all these are good in the current scenario. But what the consequences will come out from them in near and far future that are more important matter to think carefully and rethink today. Because, we can keep the beauty and take the responsibility to save our earth as knowing an important home of entire human society of the world.

Today, the highest intellectual being on the earth is so called as human. This human kind is in great danger particularly from the myriad problems made by them in the name of science, technology, progress, power and popularity. In such as critical moment we should seek solidarity of human society through developing the sense of co-operative without making any discrimination among the social classes, regions, culture, faiths, beliefs, traditions, teaching and so on. In this field education can only help to understand each other and their likes and dislikes too.

Buddha delivered his teachings on different dimensions of a society as a human being for the betterment of their life by understanding the essence of precious human life and its skillful use for the advancement of humanity, including all sentient beings as brothers and sisters of the universe. Thus, Buddhist is not against the system of modern education, which has so far produced and reproduced different kinds of disciplines, disciples, domains, degrees and departments, but emphasizes to lead a moderate life in all perspectives of thoughts and actions as on the theory of *Middle Path (Madhyama Pratipāda)* in Buddhism. The generation of a *good motivation* filled with love and compassion is the best for an individual and the others. With such good motivation only human being can help or hurt each other by physically, verbally and mentally or through the *body, speech and mind (kāya, Vāka and citta)*. Buddhist emphasizes to lead a good life by learning and understanding the good teachings in daily life. Good life does not mean just to consume the good food, clothes, shelters, and all luxuries of the modern world without any hard work. As a reason, Buddha says in *Dhammapada* that education should be good, useful and perfect that improve self before attempting to change others.

Buddhist Perspective

Buddhist always cares the educational system of Buddhism. That educational system is standing on the three pillars as mentioned earlier and technically, known as *Trisikṣā* in all Buddhist traditions. They are *Śīla* (Discipline or Morality), *Samādhi* (Concentration or mediation) and *Prajñā* (Wisdom), the realization of truth with knowledge and experience. It is very important to lead out one's body, speech and mind from inferior to superior, polluted to pure, ignorance to knowledge and wisdom, suffering to free from suffering, the state to bliss and so on. Otherwise it will harm the leader, teacher and the teachings and more over than that to harm one-self. Buddhist education teaches us the art of living, a pure life as individually but thinks and acts

for the well-being of all sentient beings. Hence, Buddhism speaks about the solutions of all problems of human society through the methods of *loving-kindness (Maitri)*, *compassion (Karunā)*, *equanimity (upekṣā)*, and *altruistic mind (Bodhicitta)* of the *Bodhisattvas*, Supreme beings. Buddha's education system has influenced most of the all great personalities of the world.

Buddhas' scientific teachings are working effectively in the modern era of science and technology with hand in hands for welfare of human beings in particular and all sentient beings in general. Buddha's mission was to guide and spread out the awareness of truthful teachings among the human beings. Buddhist education guides to other ill-fated followers of the society with friendly manners, noble motives and perfect teachings, which were prime aims and objectives of Buddhist way of life.

It is very essential to make pure and develop the actions of the body, speech and mind. It will possible by acquiring the wisdom of the hearing, pondering and contemplating, the three initial steps in Buddhist education system. The improvements in the earlier three doors of a person with the assistance of the later three educational patterns are the proper methods to scale on one's goal in a life. What the subjects and disciplines that we have in current education system as most of we are aware of the facts. Are they helpful to develop, to train and purify the body, speech and mind of human being? And how much are they successful to build a human as a sensible human not as a man made machines? No doubt, the world is interconnected from many ways but on the other side, it is so isolated in terms of living, fooding, clothing etc., in highly facilitated metropolitan cities and interior villages of the human world as well. The human beings are separating from intrinsic character of the mind, the consciousness just for the cause of money-markets, metals, matters and machines.

Hence, even in a small unit of a society, take as an example of a family both in urban and rural areas of the world today, the changes of modernity is awesome and radiating but the insight of human at least for a society of humanity is getting darker and painful as well as can understand the panic period that suppose to commence the III World war as waiting at the threshold of our home like globe. Are these the systems of modern education to be needed to learn, understand and follow by our coming generations?

So, Buddhist education system means all round development of the body, speech and especially mind. This development will come from the aspects of *Trisikṣa* namely, *Śīla*, *Samādhi* and *Prajñā*. These are some of the prominent tools to train and transform from bad habits to good habits in a life as a mark of civilized and educated person of the society that belong to us. Without changes in the modern educational system and inclusion of the trainings concerned to above three doors of the actions, the external development in the 21st century and the centuries yet to come has not more value. That's why Albert Einstein said, 'The world is too dangerous to live in, not because of people who do evil but because of people who sit and let it happen'.

Finally, the Buddhist perspective of educational system should be such like that which

can remove or eradicate all our mental disturbances, and can make it pacify and can attain the state of *Samādhi* (concentration). As the word of the Buddha narrates thus, ‘He who has this feeling of displeasure cut off, up rooted and destroyed, attain peace by day and by night.’⁴

Development

The story of development is not of today. It has a long history coming from our first evolution and of course it is a part of education. From Buddhist point of view, the goal of education is to attain wisdom, the true realization and understanding which is more than any knowledge behind which the present generation is dashing fast just to grab a job to survive, to settle and can live a life with dignity. But, targeting to have those basic things, we are involving with many malpractices in terms of fulfilling one’s selfishness and mean means of life. Thus, wisdom is not said to good knowledge but is a good understanding. Because of wisdom one can differentiate good or bad, right or wrong, suffering or happiness, correct or incorrect, virtue or non-virtue, true or false, pure or impure, clear or unclear etc. With such thought, proper education and positive approach, one can contribute to develop the community.

The peaceful, powerful, progressed and prosperous society will come through the way of proper education. So, education is only one solution to eliminate all sorts of problems or sufferings and chaotic life in the world today. Due to education and skills we have all expertise in all the sciences of learning. To cite an example, we have thousands of doctors, engineers, teachers, leaders, scientists, educationists, social reformers, industrialists, economists, historians, scholars, researchers, academicians, politicians, spiritualists, socialists, diplomats, sportspersons, artists, writers, journalists, consultants, and so on. All they worked personally or collectively to build the home of human society which is due heaven of human being, who has special spirit and skill to maintain and develop the beauty, harmony, love and compassion of the human world too.

Tibetan scholar and former Prime Minister of Exiled Tibetan Government Prof. Samdong Rinpoche writes, “The present corpus of modern education, particularly the education in science and technology, does not instill peace and non-violence. Instead, it inculcates powerful ambition for short-term material gain and creates competition. Such education encourages narrow nationalism, regionalism, and racism; thus humanity is divided on the basis of colour, caste, creed, race, language, religion, nation, and so on, creating unnecessary conflict and hostility.”⁵

Tendency of comparison, competition, system of prize and punishment, strong selfish thought and action etc., are biggest sources of different kinds of violence, uproars and unhappiness in education as well as in the community. The education

⁴*Dhammapada, chapter XVIII, Mala Vagga, verse no. 13*

⁵*Exile as Challenge: The Tibetan Diaspora, Pg. 460*

is one of the prominent methods which can solve all the problems of human beings, whether it is concerned to physical, verbal and mental as well as social sciences, political, religious, cultural, economical, environmental, managements, science and technologies, spirituality etc., are bring happiness or sorrow in our life. As a result, from one side, everyone wants happiness, good gain, peace and prosperity. But on the other side, no one wants suffering, bad loss, violence, and destitution. At same time, we are introducing more and more new fields of learning for machine making men not man making education. What system we are creating and why we are blaming for? Something is wrong in the system made by man. It is needed to be correct now without waiting long for some unprecedented and gigantic problems to face in future.

CONCLUSION

Buddha *Śākyamuni* is one of the oldest and greatest teachers of the world who taught infinite lessons such as truthfulness as an essential education system for the betterment of all human beings in the life here and hereafter. His educational system is based on the search of truth, love, honesty, benevolence, co-operation, etc., and also to develop the wisdom, judgment of right, correct, wholesome, method, etc., and in other terms *Śāla*, *Samādhi*, and *Prajñā*.

Therefore, the purpose of education is the realization of goodness, awakening of goodwill and wisdom, purification of one's mind, and finally attainment of peace and happiness. So, only the good education can fetch all the good parts of life, i.e. peace and bliss in one's own life and the world around us. It means there is something wrong in the system of imparting modern education to our tender and talented generation. The true system of education has no margins and boundaries between self and other. This is what the Buddhist perspective on education is existed still in some extent.

Bhavatu Sarva Mangalam

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Swayam: A Paradigm Shift in Learning

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ABSTRACT

SWAYAM is Information technology based platform developed by Ministry of Human Resource Development (MHRD) and All India Council for Technical Education (AICTE) with the help of Microsoft and would be ultimately capable of hosting 2000 courses and 80000 hours of learning: covering school, under-graduate, post-graduate, engineering, law and other professional courses. University Grants Commission (UGC) has vided Gazette Notification dated 19th July, 2016, notified Regulation, 2016 regarding ‘Credit Framework for Online Learning Courses through SWAYAM’. This paper highlights the general overview of SWAYAM, assessment and evaluation methods, types of learning and also future of learning system.

Keywords: Swayam, on line learning, Information technology, MOOC

“Change does not necessarily assure progress, but progress implacably requires change. Education is essential to change, for education creates both new wants and the ability to satisfy them”

— Henry S. Commager

INTRODUCTION

Learning is a continuous process. It leads to the development of a person into a better professional which further contributes to his growth as a human being. Learning can be formal as well as informal. One can go to college and learn in a classroom or observe something on the road and thus learn from practical life-either way, it all adds up to the body of knowledge, skills and attributes that we accumulate in life. There’s a saying-“the day you stop learning, you stop growing.” Thus, anybody who wants to grow must keep on accumulating knowledge both formally and informally.

This is particularly true in today’s world with technological and environmental changes making acquired knowledge redundant rapidly and forcing the executives to acquire newer skills and abilities. Some of the most sought after executive education courses

at present are in the evolving disciplines like big data analytics, deep learning and artificial intelligence.

Executive education is formal learning specifically designed for the working executives who cannot afford to invest time in a regular course. Traditionally known as distance learning or online learning or part time courses etc, executive education has gone through a sea change and using state-of art-technology, online mode of delivery is fast emerging as the preferred choice of executives around the globe.

DISTINCTIVE FEATURES OF THE ONLINE LEARNING

Anytime anywhere learning

It is a flexible option that allows one to learn anytime and from any location. Thanks to the digital revolution, one now only has a log on to a virtual classroom from any part of the world. In case a session is missed due to some professional or personal exigency, an option of no problem-archives will be made available.

Self-paced learning

Another type of courses that are redefining past paradigms is the self-paced learning modules. These are online courses where anyone can learn without an instructor, at their own convenience. However, in the absence of a facilitator and any kind of timelines, the onus of learning and completing the course rests solely with the learner. This one is certainly for the self-driven and highly motivated individuals.

Hybrid programmes

These are models that combine online learning with physical classroom sessions. Here one does most of the course through the online mode but a portion of it is done on the campus. This way working professionals get the feel of being present in the physical classroom in an institute, thus enabling their interaction with teachers and fellow students in person. This small capsule also offers a break from daily routine for them.

Cost effective learning

These courses are generally low priced and affordable, thus not being a big burden on the pocket. All major banks or finance companies generally offer attractive educational loans on big ticket programmes.

Global Learning

These courses bring global learning from top institutions from around the world to one's desktop or laptop.

TYPES OF LEARNING

Traditional learning

Traditional learning refers to a teaching method involving instructors and the students interacting in a face-to-face manner in the classroom. These instructors initiate discussions in the classroom, and focus exclusively on knowing content in textbooks and notes. Students receive the information passively and reiterate the information memorized in the exams.

It is the most common teaching behaviour found in worldwide. This teaching can be very effective, particularly for :

- Sharing information that is not easily found elsewhere;
- Presenting information in a quick manner;
- Generating interest in the information;
- Teaching learners who learn best by listening.

Online Learning

There are various ways for students to explore more information. It is common nowadays. Internet is used widely in education. Learning is facilitated conveniently in web-based environment. One common tool students like to use is Internet, and followed by another form which is e-learning. The students find learning using the technology is helpful to their study as well besides the conventional teaching environment because this new way of learning is not boring, they still can interact with the computer or the learning application. Therefore, it is also considered as interactive learning.

Multimedia Learning

It is common to see universities use instructional multimedia in course delivery as this is considered as part of the educational technology. It is not strange anymore to involve lecturers and students using multimedia technology in the classrooms. This is due to many benefits of multimedia technology can bring into the classroom.

Concept of MOOC

MOOC (Massive Open Online Course) platforms are fast gaining popularity in India. Many Indian students and working professionals have now started embracing MOOC platforms to develop deeper knowledge in their respective subjects. Considering the popularity and relevance of MOOCs, Government of India has also launched an indigenous platform, SWAYAM.

Concept of SWAYAM

SWAYAM (Study Webs of Active-Learning for Young Aspiring Minds) platform is indigenously developed by Ministry of Human Resource Development (MHRD) and All India Council for Technical Education (AICTE) with the help of Microsoft and would be ultimately capable of hosting 2000 courses and 80000 hours of learning: covering school, under-graduate, post-graduate, engineering, law and other professional courses.

SWAYAM is a programme initiated by Government of India and designed to achieve the three cardinal principles of Education Policy viz., access, equity and quality. The objective of this effort is to take the best teaching learning resources to all, including the most disadvantaged. SWAYAM seeks to bridge the digital divide for students who have hitherto remained untouched by the digital revolution and have not been able to join the mainstream of the knowledge economy.

This is done through an indigenous developed IT platform that facilitates hosting of all the courses, taught in classrooms from 9th class till post-graduation to be accessed by anyone, anywhere at any time. All the courses are interactive, prepared by the best teachers in the country and are available, free of cost to the residents in India. More than 1,000 specially chosen faculty and teachers from across the Country have participated in preparing these courses.

The courses hosted on SWAYAM are in 4 quadrants – (1) video lecture, (2) specially prepared reading material that can be downloaded/printed (3) self-assessment tests through tests and quizzes and (4) an online discussion forum for clearing the doubts. Steps have been taken to enrich the learning experience by using audio-video and multi-media and state of the art pedagogy/technology. In order to ensure best quality content are produced and delivered, nine National Coordinators have been appointed: They are AICTE for self-paced and international courses, NPTEL for engineering, UGC for non technical post-graduation education, CEC for under-graduate education, NCERT & NIOS for school education, IGNOU for out of the school students, IIMB for management studies and NITTTR for Teacher Training programme.

Courses delivered through SWAYAM are available free of cost to the learners, however students wanting certifications shall be registered, shall be offered a certificate on successful completion of the course, with a little fee. At the end of each course, there will be an assessment of the student through proctored examination and the marks/grades secured in this exam could be transferred to the academic record of the students. UGC has already issued the UGC (Credit Framework for online learning courses through SWAYAM) Regulation 2016 advising the Universities to identify courses where credits can be transferred on to the academic record of the students for courses done on SWAYAM.

What's unique about the courses on SWAYAM

- ❑ **Course type and duration:** There are two types of courses offered through SWAYAM – Credit and Non-Credit. Credit course is a course taught for at least one semester as part of a subject. Non-credit courses include courses such as awareness programme and specific skill-set training, which are not part of any set curriculum. Such courses can be of shorter duration, usually ranging from two to four months.
- ❑ **Course components:** Courses hosted on SWAYAM are available for students in four components: video lectures, downloadable/ printable reading material, self-assessment tests through quizzes and tests, and an online discussion forum for clearing doubts.
- ❑ **Eligibility:** Online education courses offered through the portal of SWAYAM (swayam.gov.in) can be accessed by anyone, anywhere, any time.
- ❑ **Course fee:** Courses offered via SWAYAM are free of cost for residents of India. However, in order to obtain certificate for a particular course students need to pay a nominal fee.
- ❑ **Certification:** Students who wish to obtain certificates for their courses need to get themselves registered on SWAYAM portal. Also, certificates are awarded to students only after successful completion of the course.
- ❑ **Credits:** At the end of each course, students will be assessed through a proctored exam. Marks/ grades secured by students in the exam can be transferred to their academic records. To implement the same, UGC has issued UGC (Credit Framework for online learning courses through SWAYAM) Regulation 2016 recommending universities to identify courses in which credits can be transferred to students' academic records.

New paradigm for teaching and learning

Online learning is catalyzing a pedagogical shift in how we teach and learn. There is a shift away from top down lecturing and passive students to a more interactive, collaborative approach in which students and instruction co-create the learning process. The instructor role is changing from the “sage on the stage” “to the guide on the side “.

Future of Learning

In future we will see major changes in learning. It developed a descriptive vision of the future, based on existing trends and drivers, and a normative vision outlining how future learning opportunities should be developed to contribute to social cohesion, socio-economic inclusion and economic growth. The overall vision is that personalization, collaboration and informalisation (informal learning) are at the core of learning in the future. These terms are not new in education and training but will have to become the central guiding principle for organising learning and teaching in the future.

CONCLUSION

SWAYAM will provide a way forward for quality education in India, where good teacher in government sector is a matter of concern. MHRD has taken initiative to reform the teacher education system as well as reform the whole education system is a like a mirage. This web course based learning would help the teachers and students to have access to large number of good educational resources and will provide good opportunity to access the education from eminent teachers with affordability. This new way will be helpful for teacher and learner like promotion for in-service teachers and jobs, admission to higher classes by learners.

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Women Empowerment in ancient Indian Religion: A Critical Study

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INTRODUCTION

“I measure the progress of a community by the degree of progress which women have achieved”

— B.R. Ambedkar

Ancient India is the culture and value based country in the world. Culture is back bone of any civilized country. Diversity, the peculiarity of Indian culture, is seen not only in language and customs, but also in all aspects of society. Sanskrit is one of the ancient language of the world. Its contribution to the preservation and promotion of Indian-ness is remarkable. Its contribution to Philosophy, Sociology, Psychology, Literature and almost all other disciplines is irrefutable.

In the Vedic period the status of women empowerment of education was much higher than that of later period. Rishis like Lopamudra, Visvavara and Ghosa etc. were stated to be as composers of hymns and regarded as Rishis or Seers. This is a proof for brahmachary and women education during the period. A woman play different role as a wife, mother, sister, mother-in-law, daughter in law and grandmother as so on. In the ancient Indian Religious society, the position of the society.

Although the concept of women empowerment has become a very serious issue and a matter of the great discussion in the contemporary era, it did arrest the attention of ancient Indians since the early stage of civilization. Manu said –

“yatra naaryastu puujyante tatra devataah”

Yatraitaastunapuujyantesaraastatraaphalaahkriyaah¹ ||”

¹Manu 3/56

The divine are extremely happy where women are respected (worshiped, figuratively); where they are not, all actions (projects) are fruitless.

Objectives of the Study

- ❑ To study the women empowerment from ancient Indian religious society to modern era.
- ❑ To identify and classify the Women empowerment issues depicted in ancient Indian Religious literature.
- ❑ To know about women empowerment of ancient Indian Religious Period.
- ❑ To explain the relevance of ancient Indian Religious literature in present time.
- ❑ To look for the development of women empowerment in ancient Indian Religious knowledge to the current scenario.

Methodology of Study

The Historical, Survey and Analytical methods are used in this study. Primary and secondary data have been used in this study. The secondary data have been collected from various books, different research reports, articles, journals and websites etc. The primary data are mainly collected from the original books of Ancient Indian literature.

Major Discussion

The rights of women and men of each developed country are equal. But in some countries, the rights of women and men aren't the same; there is no exception in India and in that case. In ancient times, it is said about the empowerment of women, but word meaning has been misinterpreted later. In the patriarchal society, women are taken only by using goods.

One of the most important issues for which ancient Indian religion has much relevance today is women's rights and empowerment. Now-a-days there is much talk about this issue. Even an International Women's year and decade were observed.

“Human rights are women's rights and women's rights are human rights, once and for all.”

— **Hillary Clinton**

We see ancient Indian religious scriptures about women's empowerment. Various texts have been discussed in various scriptures from ancient to modern times about women's empowerment.

*“Sita Bhagavati Jnayan Mulprakritisamhita |
Sarvadharmamayi Sarvadharakaryakarammayi Mahalaxmih² ||”*

“She alone is the center point of nature”. She is Veda Mata. She is all Dhans. She is base for the creation and hence is Mula Prakiriti and she is Mahalakshmi.

Thus, we respect the women hood since we think our Mula Prakriti is a woman. Women are the guardians of our culture. We respect them; we rely on them we survive in their presence. Our Goddesses are Omkaraswarupini. We find no difference between our culture and womanhood since they protect us all in each and every activity. As a daughter, as a sister, as a sister, as a wife, and as a mother, woman enjoy glorious status in our Society.

*“Yashyatebyatebayosaetyayamarthaapipurbaktomebarthanirupoyoti |
Narasnyadharmyanariitibyutpattihtasyadharmamulakattamnirupayati³ |
Jakshyate palliate chettatvamkathayamas⁴ |”*

Aditi the mother of Gods (Devamata) is the personification indicates a number of such noble women. They were called Brahma Vadins. They were lifelong philosophers.

They are Usana (Wife of rishi Bhrigu) Lopamudra (Wife of Agasthya) Sarparajni (Nagmata), Gouriveeti, Chailaki, Jaya, Pradurakshi, Bharadwajaputri, Ramyakshi, Lougakshi, Vasusruta, Varini, Viswawara, Hyma and host of others. These noble ladies who appear in our sruti and smritis are protecting us by throwing away evil effects in the universe.

Right from the times of Rigveda females were adored and they occupied definitely a better place than men. Even in Goddesses we give priority to those who stand by Dharma. Goddess Usha was praised in 20 slokas in Rigveda. Usha was an embodiment of energy. She was the daughter of Nabhodevi.

The sun the Supreme God who appears daily follows Usha since she protects the universe. She shines, awakens the entire land and creates sweet voices.

*“Eta utsausasahketumkrat
Purveartherajasobhanumanjate |
Niskunhbanaayudhanbadusnabah
Pratigavoaarisiryantimatu⁵ ||”*

Goddess Usha and her incarnates create enthralling light which is the cause for delight in nature. They impart light, create beauty and protect us j list as a warrior with his shining war weapons protect the country. They are the embodiment of sun’s rays which give us food as awaken us through knowledge (Jnana).

³Panini-04-01-1973

⁴Kenopanished-III Khande

⁵सा.सं.-3-8-3-16-1

The women ancient Indian Religious Society always had an equal right, equal doze of respect, disrespect, suffering and showering, property and poverty as men. Equality doesn't mean exact mean same, it has to appropriate to the person's ability, role etc. Due to fast, external influences a millennium ago, the society became rigid in an attempt to reserve its identity, and the ill practices started to creep in. They had property rights, rights to leave and remarry, widow remarriage, marry on their own if beyond age (*Kautilya's Arthashastra* mentions all explicitly).

*“Isstriyanturochomanayansarvam tad rochatekulam |
Tasyantwarachmanayansarvamebonarochate⁶ ||”*

When the women look beautiful (adorn jewelry, do make up and dress up) the whole family looks good, and when they don't everything looks insipid.

At one time, women were absolutely free. Just as men became exponders of Vedas, so women also became the same.

A marriage is also respect, and is not just for lust. It is family building, providing a happy, safe trusting environment, where both husband and wife to be happy to complete the picture. If the pati-parameshavara i.e. “husband is ultimate god” then the wife also called griha-laxmi i.e. “prosperity of the home”. Only a balanced, respectful reationship will give any meaning to it.

Special status of women was protected and respected. The rule of Dharma which made it duty of male members of the family to afford protection to women reads:

*“Pita rakshati kaumare varta rakshati youbane |
Rakshantirathabireputranaisstriswatantramarhati⁷ ||”*

Father protects the girl during her childhood, the husband protects her after marriage and her sons protect her in old age. At no stage a women should he left free.

In Arthashastra of Kautilya, as in many other ancient Indian text, the basis of financial security to married omen was ‘*Stridhana*⁸’ (women's property). It consisted of landed property, jewelry and money sufficient for maintenance of the married women and her children. The fund was to be provided by husband, the relatives of the husband and that of the women who is to be married. The amount of the fund depended on the financial capabilities of the donors involved and the existing custom; but it should at least be sufficient to cover the subsistence of the women and her children in case her husband dies, remarries or abandons her for any reason in which the women has on fault on her part.

Manu's thoughts on women's rights are based on the principles of justice, equality

⁶*Kautilya's Arthashastra*

⁷*Manusmriti IX-3*

⁸*Manusmriti 90.183,9.194*

and equity. Here the positive aspects of the laws related to women's rights have been considered. Manu permits woman to choose her life-partner. He says that she should never allow her father to give her away to a man of bad character or for that matter, lacking in any good quality. She should rather remain unmarried in her father's house till her death. This gives freedom to girl at least in the vital matter of choosing her match⁹. The modern law also safeguards this right of the girl.

In Manusmriti it has been mentioned that women should not do any household work alone under pressure¹⁰. It does not mean that by this rule her freedom has been restricted. In fact, its purpose is that she should consult the male member of the family. When the management of a family is made by mutual consent and co-operation of all members, it is well knit and well adjusted. This increases the positive freedom of women. Man is also restricted from performing religious activities without the co-operation of women.

As women's duty is to look after the family members, it is also her right to expect honour and respect of them. The duty of the householder is first to feed the daughter, the daughter-in-law, the sickly and pregnant women before he takes his food. A guest is honourable but daughter, daughter-in-law, the sickly one and pregnant women should have meals even before a guest takes it¹¹.

Manu is quite liberal while formulating the rules relating to women's rights. If there are restrictions on her freedom or curtailment of some rights, a single principle rules out of all misplaced apprehensions of injustice to her, for example, where women are honoured God resides there and where they are unhappy worship of God is fruitless¹². He has also said that woman is the glamour of the house¹³.

CONCLUSION

Through this study we come on conclusion that as the women have equal participation in human development. She is half of the human race. In ancient Indian religion, women occupied a very important position, in fact a superior position to, men. It is a culture whose only words for strength and power are feminine – "*Shakti*" means "power" and "strength." All male power comes from the feminine. Literary evidence suggests that the kings and towns were destroyed because a single woman was wronged by the state. For example, Valmiki's Ramayana teaches us that Ravana and his entire clan were wiped out because he abducted Sita. Veda Vyas's Mahabharata teaches us that all the Kauravas were killed because they humiliated Draupadi in public.

A mention of only a portion of the women empowerment in ancient Indian Religion is a clear indication that in Indian women empowerment were far ahead from the thinking of presently. Human rights in ancient religious times were.

⁹*Ibid.*, 9.130, 9.131

¹⁰*Ibid.*, 9.17

¹¹*Ibid.*, 8.24

¹²*Manusmriti* 9.23

¹³ *Ibid.*, 9.78

Every society has its own pattern of value system because society has their own beliefs, norms, tradition, customs, folks, rituals, mares and manners that's Indian cultures:

“अतिथि देवो भव ।

मातृदेवो भव ।

पितृदेवो भव ।

आचार्यदेवो भव ।

वसुधैव कुटुम्बकम् ॥”

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Access to Healthcare Services and the Plight of Rohingya Refugees

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ABSTRACT

The paper attempts to understand the present condition of Rohingyas when dealing with access to healthcare services. A brief description of the international norms, conventions and practices has been made to give a wider understanding. Coming to the Indian perspectives, the judicial attitude in dealing with the issue, provided that India not being a signatory to the Refugee Convention. Constitutional guarantee and legal framework in India along with a case study based on Rohingyas in Delhi is given due stress. An insight of best practice models available in India is highlighted. An exhaustive description of the Asian-African practices dealing with access to health care services and their feasibility in Indian context is made, in order to provide a basis for future deliberations and discussions in this arena.

Keywords: Rohingyas, healthcare services, international norms, conventions, refugee convention

INTRODUCTION

The UN General Assembly defines the term refugee as “any person who owing to a well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion is outside the country of his nationality and is unable or, owing to fear, is unwilling to avail himself of the protection of that country; or who, not having a nationality and being outside the country of his former habitual residence as a result of such events, is unable or, owing to fear, is unwilling to return to it.”¹

80% of the world’s refugees live in developing nations, and at least 5.7 million refugees have been in exile for 5 years or longer.² ‘BOAT PEOPLE’ and ‘Nowhere people’ are

¹Pavlish, C. “Refugee Women’s Health: Collaborative Inquiry with Refugee Women in Rwanda.” *Healthcare for Women International*. 26.10 (2005): 880-896.

²“UNHCR annual report shows 42 million people uprooted worldwide.” *The UN Refugee Agency*.

terms that have become synonymous with one of the most persecuted minorities in the world, the Rohingyas. Unable to claim citizenship in Myanmar, where about 1.1 million of them live in the Rakhine province, or in any other country, these ‘stateless’ people have been living with the curse of having no nationality to claim as their own.³

The Rohingyas’ claim to citizenship rests on their assertion that they constitute an ethnic indigenous group of Myanmar, which can trace their lineage to the old Arakan kingdom, and that they are not merely Bengalis. The word Rohingya can be understood as inhabitant ‘of Rohang’, the early Muslim name for the independent kingdom of Arakan (now Rakhine).⁴

But the policy of exclusion depriving the Rohingyas citizenship rights has led to them fleeing the country. This paper seeks to look at the access of Healthcare services by the Rohingya refugees, the best practices models present in Asian-African context which could be used to develop a sound policy for them.

HUMAN RIGHTS AND HEALTH

Human rights may be considered in two notions, one where the State has to play a dynamic role and secondly where a passive or limited role is more acceptable on its part. The right to health comprises elements of both: a state should not intrude in someone’s health, meaning that the state should respect the integrity of the body, should neither torture nor impose diseases. At the same time, we associate a “right to health” with an onus on the part of the community to provide adequate health services. Provisions in a number of international legal instruments describe this second, affirmative, meaning of a right to health:

- ❑ “everyone has the right to a standard of living adequate for the health and wellbeing [...] including medical care”.⁵
- ❑ “everyone has the right to benefit from any measures enabling him to enjoy the highest possible standard of health attainable”.⁶
- ❑ “the State Parties recognize the right of everyone to the enjoyment of the highest attainable standard of physical and mental health”.⁷
- ❑ “everyone shall have the right to health, understood to mean the enjoyment of the highest level of physical, mental and social wellbeing”.⁸

Many of the human rights instruments go one step further, describing more particular aspects of right to health. These include:

³See Priyanca Mathur Velath, ‘The Tragic Case of the Rohingya Refugees’, *Deccan Herald*, 25 July 2015, <http://www.deccanherald.com/content/485583/tragic-case-rohingya-refugees.html>, accessed on 25.05.2017

⁴http://mcrg.ac.in/Rohingyas/Report_Final.pdf accessed on 25.05.2017

⁵Universal Declaration of Human Rights, Article 25

⁶European Social Charter. Part I, 11

⁷International Covenant on Economic, Social, and Cultural Rights (ICESCR), Article 12.1

⁸Additional Protocol 1988 to the American Charter on Human Rights, Article 10.1

- ❑ Motherhood and childhood are entitled to special care and assistance.⁹
- ❑ Anyone without adequate resources has the right to social and medical assistance.¹⁰
- ❑ The steps to be taken by the states parties shall include the creation of conditions which would assure to all medical services and medical attention in the event of sickness (ICESCR, Article 12.2 d);
- ❑ States shall take the necessary measures to protect the health of their people and to ensure that they receive medical attention when they are sick;¹¹

Conceivably the best commitment that has been ratified is the 1988 Additional Protocol to the American Convention on Human Rights in the area of Economic, Social and Cultural Rights (Article 10.2):

“in order to ensure the exercise of the right to health, the States Parties agree to recognize health as a public good and, particularly, to adopt the following measures to ensure that right:

- a. Primary health care, that is, essential health care made available to all individuals and families in the community;*
- b. Extension of the benefits of health services to all individuals subject to the State’s jurisdiction;*
- c. Universal immunization against the principal infectious diseases;*
- d. Prevention and treatment of endemic, occupational and other diseases;*
- e. Education of the population on the prevention and treatment of health problems, and*
- f. Satisfaction of the health needs of the highest risk groups and of those whose poverty makes them the most vulnerable.”*

Finally, notice should be taken of the role of international cooperation. Under Article 2(1) of the ICESCR, states parties commit to undertaking steps, “individually and through international assistance and cooperation, especially economic and technological”, to achieve progressively the rights recognized in the Covenant, including the right to health. Cases raising claims to a right to health may also arise at the national level. In some countries either s constitutional or international right to health has been given effect in domestic courts. The right to health may also be implicated in cases based on protections of other civil and political rights.

Immigrant access to medical services and benefits in the country of settlement have been put to test in a plethora of court cases. *Gaygusuz v. Austria*¹² concerned the refusal by the Austrian authorities to grant emergency assistance to an unemployed man of

⁹UDHR 1948 Article 25.2

¹⁰European Social Charter, part I, 13; and Article 13

¹¹African Charter on Human Rights, Article 16.2

¹²39/1995/545/631

Turkish nationality, who had exhausted his entitlement to unemployment benefits, on the grounds that he did not have Austrian nationality. The European Court of Human Rights found this decision to be in breach of Article 14 of the ECHR (non-discrimination) in conjunction with Article 1 of the First Protocol (peaceful enjoyment of possessions).

The Court's finding was based specifically on the fact that the applicant had made contributions to the unemployment insurance fund. It is likely that related conclusions would apply to claims to entitlement to medical care if grounded on contributions. The full scope of the problem becomes visible when looking at the situation of individuals who have not made any contribution to any public system of health care and where facilities would need to be provided on the basis of a principle of charity rather than that of mutual assistance. Yet, it should be stressed that the degree of severity of suffering required to engage the responsibility of the public authorities under Article 3 of the Convention (forbidding inhuman or degrading punishment or treatment) is particularly high.¹³

HEALTH IN REFUGEE CAMPS

We can differentiate among a number of post-entry scenarios, depending on a migrant's status (lawful-unlawful or temporary-settled) and whether a migrant has health insurance. As noted above, international law non-discrimination norms apply to immigrants, but do not necessarily condemn all differences in treatment between citizens and non-citizens. Differential treatment occurs in several ways.

While living in their home country, refugees often experience traumatic events and antagonistic circumstances such as sexual violence, genocide, torture, political persecution, the loss of loved ones, and forced child soldiering, which recurrently prompt them to escape from their country of origin. However, it is not only traumatic events or experiences that affect the mental health of refugees. Recent work has shown that the daily hassles of living in refugee camps, such as waiting in line at the water tap, also negatively impact mental health. Though the anxieties of everyday life at a refugee camp are known to adversely impact health, the good news is that since "*daily hassles seem to be reliable predictors of distress among war-affected populations... they may also be promising targets for interventions.*"¹⁴ Refugees usually have the highest risk of mortality immediately after reaching their country of asylum, as they repeatedly arrive in poor health and are completely dependent on foreign aid. During this time,

¹³As pointed out above, the degree of severity of the suffering required to engage the responsibility of the public authorities under Article 3 of the Convention is particularly high. It is for this reason also that an application introduced in the eighties before the Convention by a destitute woman who could not afford to pay her electricity bills, whose electricity supply had been cut off by the Belgian authorities, and who argued her case on the basis of Art. 3 of the Convention as the lack of heating seriously affected the well-being of her children and herself was unsuccessful (14641/189).

¹⁴Rasmussen, A., and Annan, J. "Predicting Stress Related to Basic Needs and Safety in Darfur Refugee Camps: A Structural and Social Ecological Analysis." *Journal of Refugee Studies*. 23.1 (): 23-40. Accessed on 5 August 2010.

the most commonly reported causes of death include diarrheal diseases, measles, acute respiratory infections, malaria, malnutrition and other infectious diseases.¹⁵

IMPEDIMENTS TO CARE

Refugee camps present even greater barriers to care than most other settings in the developing world because they tend to be remote, poorly accessible by road, and have a limited power supply.¹⁶ In addition, the limited amount of resources that camps have, combined with growing populations puts great strain on basic resources such as food and water. The high mobility of the refugee setting, and the constant inflow and outflow of people presents a unique challenge because it is difficult to provide sustained care over a period of time.¹⁷

The Refugee Convention lays down certain minimum standards for the treatment of refugees. Yet these standards appear to be limited with respect to the socio-economic rights of refugees, particularly the Right to Health. The Refugee Convention makes no mention of an adequate standard of living or of physical and mental health. Since India is not a signatory to the Refugee Convention it is not bound by it. But, the refugees and asylum-seekers in India have access to the public health system at par with citizens, by virtue of its Municipal Laws.

ACCESS TO HEALTH BY REFUGEE RIGHTS: AN INDIAN PERSPECTIVE

India does not have on its statute book a specific and special law for refugees, but is a signatory to a number of United Nations and World Conventions on Human Rights. India became a member of the Executive Committee of the High Commissioner's Programme (EXCOM) in 1995.¹⁸ The EXCOM is the organisation of the UN, which approves and supervises the material assistance programme of UNHCR. Membership of the EXCOM indicates particular interest and greater commitment to refugee matters. India voted affirmatively to adopt the Universal Declaration of Human Rights which affirms rights for all persons, citizens and non-citizens alike. India voted affirmatively to adopt the UN Declaration of Territorial Asylum in 1967.

India ratified the International Covenant on Civil and Political Rights (ICCPR)¹⁹, as well as the International Convention on Economic, Social and Cultural Rights (ICESCR)²⁰ in 1976. India ratified the UN Convention on the Rights of the Child in

¹⁵Toole, M.J., and Waldman, R.J. "The Public Health Aspects of Complex Emergencies and Refugee Situations." *Annual Review of Public Health* 18 (1997); 283-312.

¹⁶Adler, D., Mgalula, K., Price, D., and Taylor, O. "Introduction of a portable ultrasound unit into the health services of the Lugufu refugee camp, Kigoma District, Tanzania."

¹⁷Rutta, E., et al. "Prevention of mother-to-child transmission of HIV in a refugee camp setting in Tanzania." *Global Public Health*. 3.1. (2008): 62-76.

¹⁸<http://www.unhcr.org/5575a793b.pdf> (Accessed on 24.05.2017)

¹⁹10 April 1979.

²⁰10 April 1979.

1989²¹. India ratified the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW)²², in 1974 under which Article 1 imposes legally binding obligation. India accepted the principal of non-refoulement as envisaged in the Bangkok Principles, 1966, which were formulated for the guidance of AALCO member states in respect of matters concerning the status and treatment of refugees.

The Supreme Court of India has consistently held that the Fundamental Rights enshrined under Article 21 of the Indian Constitution regarding the Right to Life and personal liberty, applies to all irrespective of the fact whether they are citizens of citizens of India or aliens. Various High Courts in India have liberally adopted the rules of natural justice to refugee issues, along with recognition of the United Nations High Commissioner for Refugees (UNHCR). For instance in, *Gurunathan and others v. Government of India*²³ and in the matter of *A.C. Mohd. Siddique v. Government of India and others*²⁴, the High Court of Madras expressed its unwillingness to let any Sri Lankan refugees to be forced to return to Sri Lanka against their will. The Bombay High Court in the matter of *Syed Ata Mohammadi v. Union of India*²⁵ was pleased to direct that “there is no question of deporting the Iranian refugee to Iran, since he has been recognised as a refugee by the UNHCR”.

The inverse care law, whereby those with the paramount need for health care have the greatest difficulty in accessing health services and least likely to have their health needs met, is highly applicable in India.²⁶ The Right to Health has been read into Article 21, which embodies the Right to Life under the Constitution. In 1984, the Supreme Court of India held in *Bandhua Mukti Morcha v. Union of India*²⁷ that “(the) right to live with human dignity, enshrined in Article 21... at the least...must include protection of the health..”, effectively stating that the Right to life include Right to Health. In the case of *Louis de Raedt v. Union of India*²⁸ and *Arunachal Pradesh v. Khudiram Chakma*²⁹, the apex court further laid down that Article 21 extended to all foreigners. Article 21 was then specifically held to apply to refugees by the Supreme Court in the case of *National Human Rights Commission v. State of Arunachal Pradesh*.³⁰ Given that the Right to Life, firstly, includes the Right to Health, and secondly, extends to refugees, the Right to Health is also guaranteed to refugees. Refugees consequently have the right to access free or subsidized treatment in all government hospitals and dispensaries.

²¹11 December 1992.

²²9 July 1993

²³WP No. S 6708 and 7916 of 1992

²⁴1998(47) DRJ (DB) p.74.

²⁵Criminal writ petition no. 7504/1994 at the Bombay High Court

²⁶Sen G, Iyer A, George A. *Structural Reforms and Health Equity: A Comparison of NSS Surveys, 1986–87 and 1995–96. Economic and Political Weekly*. 2002;37(14):1342–1352.

²⁷1984 AIR SC 802

²⁸1991 AIR SC 1886

²⁹1994 Sup (1) SCC 615

³⁰1996 SCC (1) 742

ROHINGYA REFUGEES IN DELHI: A CASE STUDY

The Rohingyas arrived in India after being attacked by the ethnic Rakhine Buddhists. Delhi, being the national capital and the seat of the UNHCR office, is naturally the place they first got pulled too. In Delhi, these people can be found in clusters, spread across Kalindi Kunj and Batla house area.³¹ Owing to their distinct features and inability to speak the Hindi language fluently, they face a lot of discrimination from the people in and around these areas. While most of them have UNHCR cards, yet they are incapable of accessing the most necessary services of day to day life.

On interviewing the local organizations, it was observed that these camps/make-shift low-lying areas lacked toilet facility. It was only a few months back; a few charitable societies had made philanthropic contributions for constructing toilets in the said areas.³² The areas lack sanitation facilities and during the monsoons, these areas get converted to breeding grounds for mosquitoes and insects. Bleak lights, plastic roofs, lack of water supply, not being fluent in communication and different eating habits³³ make it very difficult for these Refugees to adjust and survive. Most of them complained of water borne diseases, poor eye sight and breathing problems accompanied by seasonal fever and headaches. Apart of these diseases, most of them are still caught in the terror struck past experiences, which require immediate Redressal.³⁴

As physical distance to facilities is a key determinant for access,³⁵ overcoming this through outreach or better transport, roads and communication networks is important for reaching disadvantaged and physically isolated groups. In addition, distance remains a greater barrier for women.³⁶ Furthermore, physical access of services does not necessarily assure utilization since the costs associated with seeking care also preclude uptake, even when services are physically available. However, it is not only traumatic events or experiences that affect the mental health of refugees.

RECENT DEVELOPMENTS – RIGHT TO HEALTH

Children may arrive at refugee camps alone, often having witnessed the death of a parent or loved one, and having experienced or observed violence and torture.³⁷ Refugee children are particularly vulnerable to developing mental health problems when they are in the process of moving to refugee camps since they are frequently separated from their parents or guardians, or their parents may be too overwhelmed or otherwise

³¹<https://thewire.in/116836/rohingya-delhi-photo-feature/> (accessed on 2.06.2017)

³²<http://www.livelihoods.org/world-refugee-day-defence-rohingya-refugees-india/> (accessed on 25.06.2017)

³³Mainly rely on rice and fish.

³⁴An interview was conducted by the Author, with cooperation from local societies.

³⁵Acharya LB, Cleland J. Maternal and child health services in rural Nepal: does access or quality matter more? *Health Policy Plan.* 2000;15(2):223–229.

³⁶Vissandjee B, Barlow R, Fraser DW. Utilization of health services among rural women in Gujarat, India. *Public Health.* 1997;111(3):135–148.

³⁷Fazel, M., Doll, H., and Stein, A. "A School-Based Mental Health Intervention for Refugee Children: An Exploratory Study."

unable to attend to their emotional needs.³⁸ Having to live through such traumatic experiences can clearly make children (and adults) hyperaware of their surroundings, which negatively impacts their ability to function both on a basic and higher level. It is also important to note that it is not just first generation refugee children who suffer from mental illnesses as a result of trauma. Second generation refugee children are at a higher risk of suffering from behavioural conditions, such as substance abuse and eating disorders.³⁹

As per the Delhi High Court's ruling in *Social Jurist v. GNCTD*⁴⁰, "private hospitals have to provide free treatment to the indigent persons.....completely free of charge in all respects". The Supreme Court subsequently upheld this decision.⁴¹ Following this the Government of Delhi issued a set of guidelines (the "Government of Delhi Guidelines") applicable to specified private hospitals. These guidelines included the point that a patient need not provide any proof of residence or income to access health services. The Government of Delhi Guidelines state that the possession of a BPL card, Antyodaya Anna Yojna card or a valid income certificate issued by the office of concerned District Commissioner, Sub-Divisional Magistrate or Tehsildar, is sufficient to indicate that a person falls within the EWS ("Economically Weaker Section") category. Furthermore, if a person is not in possession of these documents, a mere declaration of income in the specified format is sufficient. Thus, refugees who do not have the aforementioned documents but fall in the EWS category⁴² can access these services after making a self-declaration of their income.

In February 2014, the Directorate of Health Services in New Delhi issued an official clarification the "DHS Delhi Clarification". An eligible EWS patient residing anywhere in the country can avail free treatment in any of the 45 identified private hospitals.⁴³ The free treatment is available for all ailments without exception.

Thus, for the first time in Delhi, the DHS Delhi Clarification when read with the Government of Delhi Guidelines prohibits the listed private hospitals from denying free services to anyone (including refugees) and secondly, the burden placed on government hospitals is reduced. A local NGO, Charity Beds, helps people, including Refugees and Asylum-seekers, access health services, to ensure that the DHS Delhi Clarification and the Government of Delhi Guidelines are upheld in spirit.⁴⁴

However, the Apollo Hospitals in Delhi, which are covered in the list of 45 private

³⁸Crowley, C. "The mental health needs of refugee children: A review of literature and implications for nurse practitioners."

³⁹Pumariaga, A., Rothe, E., and Pumariaga, JoAnne. "Mental Health of Immigrants and Refugees." *Community Mental Health Journal*. 41.5 October (2005): 581-593.

⁴⁰140 (2007) DLT 698

⁴¹SLP (C) No. 18599 of 2007.

⁴²<http://www.delhi.gov.in/DoIT/Health/guidelines.pdf> (Accessed on 02.06.2017)

⁴³'Refugee Protection In India: Access to Economic and Social Rights', Published by ARA Legal Initiative, an initiative of The ARA Trust, September 2015, p. 63

⁴⁴ See CharityBeds at www.charitybeds.com (Accessed on 25.05.2017)

hospitals referred to above, still require EWS patients to bear cost of medicines and consumables in contravention to the DHS Delhi Clarification, despite having 200 beds reserved for EWS patients. This is in spite of the Delhi High Court's ruling in *All India Lawyers Union (Delhi Unit) v. Government NCT Delhi & Others*⁴⁵ that they must also provide medicines and consumables for free.⁴⁶ Apollo has challenged this order. In July 2014 the Delhi High Court passed an order directing the All India Institute of Medical Sciences ("AIIMS"), a government hospital, to provide free tests and treatment to an Afghan refugee boy who was suffering from a rare blood disorder, pending a final decision in the case.⁴⁷ Should the order of the Delhi High Court be reiterated, it would be a welcome step since refugees would in some cases have access to advanced medical care even if they were unable to afford it.

BEST PRACTICE MODELS IN INDIA

Refugee populations from Sri Lanka and Tibet fall under the mandate of the Government of India and through it, the various State Governments where these refugees are resident. The Central and State Governments have, over the course of time, taken a number of steps towards the welfare of these refugees, in the sectors of education, health, etc., sometimes conferring on them a status comparable with that of Indian Citizens. Some of these can be referred to as best practice which could be replicated in the Central and State Government's dealings with other refugee populations.

Sri Lankan Refugees

All Sri Lankan refugees in Tamil Nadu have access to most of the socio-economic schemes available to citizens. There are certain schemes initiated by the State Government specifically for their benefit. These are –

- ❑ Sri Lankan refugees can access free medical treatment in government recognized hospitals.⁴⁸
- ❑ Pregnant refugee women are given 1000 rupees per month during the eighth, ninth and tenth months of pregnancy.⁴⁹ Further, under the Dr. Muthulakshmi Reddy Maternity Financial Assistance scheme, for the first three months after delivery refugee women are given an amount totalling ₹ 12,000.⁵⁰ Pregnant women are provided free medical check-ups, monthly counselling, and

⁴⁵WP(C) No. 5410/1997

⁴⁶Directions by Directorate of Health Services: Government of NCT of Delhi, Directorate of Health Services at <http://www.delhi.gov.in/wps/wcm/connect/3f4f14004ffe7cb580969bd9d1b46642/APOLLO.pdf?MOD=AJPERES&CACHEID=3F4F14004FFE7CB580969BD1B46642> (Accessed on 25.05.2017)

⁴⁷ W.P. (C) 3822/2014

⁴⁸ See Tamil Nadu Government, *Publication of Information and Public Relations Department, Tamil Arasu Magazine, Vol. 45, May-June 2014, p. 202-203*, at <http://www.tndipr.gov.in/pdf/3YearAchievement> (English). pdf (accessed on 01.06.2017).

⁴⁹Supra note 48.

⁵⁰ Ibid.

treatment and childbirth facilities in Primary Health Centres (“PHCs”).⁵¹ Following delivery, birth certificates are issued and PHCs also provide basic medical care to the new-born.⁵²

- Refugees are covered under the State’s Comprehensive Health Insurance Scheme.⁵³ The scheme benefits 34,826 refugees and aims to provide free medical and surgical treatment in government and private hospitals in Tamil Nadu to families whose annual combined income is less than ₹ 72,000.⁵⁴ The scheme provides coverage up to ₹ 1,00,000 per family per year; for certain specified ailments and procedures of a critical nature, the overall limit is ₹ 1,50,000.⁵⁵

Tibetan Refugees

The first wave of Tibetan migration to India started in 1959, when the 14th Dalai Lama and his followers sought asylum in India, out of fear of persecution by the Chinese army.⁵⁶ Those refugees were allotted land by the Indian Government in Dharamshala, Himachal Pradesh. The second wave took place in the 1980s and the third wave began in 1994. From 2000 onwards, India has made concerned efforts to restrict the flow of Tibetans entering the country.⁵⁷

With regard to Tibetan refugees who are in India, the government has introduced various welfare policies, both at the Central and State level. With the aim of bringing about uniformity in these multiple welfare schemes available to Tibetan refugees, the Ministry of Home Affairs has recently issued the “Tibetan Rehabilitation Policy 2014” (“2014 Policy”). The 2014 Policy makes clear the rights of Tibetans relating to their welfare in India. As per the 2014 Policy, Tibetans living in India can now avail the benefits of the National Rural Health Mission.

CASE STUDIES: ASIAN-AFRICAN PRACTICES

(i) Case Study: Ultrasound in Lugufu Refugee Camp in Tanzania

A study conducted in Lugufu refugee camp in Kigoma District, Tanzania showed that ultrasound can be effectively implemented in refugee camp settings. In 2005, a group

⁵¹ *Supra* note 48

⁵² *Ibid*

⁵³ *Health insurance scheme extended to Lankan refugees outside camps, 26 January 2014, at <http://www.thehindu.com/news/national/tamil-nadu/health-insurance-scheme-extended-to-lankan-refugees-outside-camps/article5617925.ece> and see Government of Tamil Nadu, Chief Minister’s Comprehensive Health Insurance Scheme at <http://www.cmhistn.com/features.html> (accessed on*

⁵⁴ *Ibid*

⁵⁵ *Supra* note 31

⁵⁶ *Tibet’s Stateless Nationals II: Tibetan Refugees In India, Tibet Justice Centre, September 2011, at <http://www.tibetjustice.org/reports/stateless-nationals-ii/stateless-nationals-ii.pdf> (accessed on*

⁵⁷ *Supra* note 34

of physicians travelled to Lugufu and conducted an intensive four day training session for healthcare providers in the camp on how to correctly use ultrasound. Over the two year study period, healthcare providers in the camp used ultrasound to perform exams on women of childbearing age to diagnose female pelvic and obstetric issues, and to diagnose a number of tropical infectious diseases, such as echinococcosis. The healthcare providers subsequently stated that the use of ultrasound improved their ability to care for their patients.⁵⁸ In addition, ultrasound was shown to be used effectively in a refugee camp on the Thai-Burmese border by locally-trained health workers for gestational age estimation.⁵⁹

(ii) Case Study: Efforts to Improve Health Care and Health Education in Meheba Refugee Settlement in the Northwest Province of Zambia⁶⁰

Meheba Refugee Settlement in Zambia is one of the positive examples of a concerted effort on the part of the UNHCR and other local NGO's to spread awareness of sexual health, STI's such as HIV, and to promote health education more broadly. Pamphlets in Meheba are distributed camp-wide in French, Swahili, Lingala, Lunda, and many other local dialects, in order to educate refugees on the truths of HIV/AIDS and other diseases, the symptoms associated, and preventative measures. Free HIV testing takes place weekly in the communal marketplace of the settlement as do health talks.

As a result of these efforts, Meheba Refugee Camp has a much lower HIV infection rate than its surrounding Zambian northwest province. Higher international health standards and UNHCR's accountability to the world stage increases health standards as well as follow-up to health procedures. On top of this, World Refugee Day, which is celebrated every summer, features short plays, information sessions, and songs that cover issues such as HIV/AIDS, marital abuse, alcoholism, and the mental ramifications from violence, which further promotes awareness.

(iii) Case Study: UNFPA provides ambulance, improves healthcare for Rohingya refugees in Cox's Bazar

The United Nations Population Fund or UNFPA has provided a new ambulance and inaugurated the improved primary healthcare services for the Rohingya refugees living in Cox's Bazar camps. The ambulance tendered to an NGO, Research, Training and Management (RTM) International, it will guarantee that the refugees living in two camps, as well as host communities, can access lifesaving treatment in the case of a medical emergency.

Kutupalong and Nayapara camps host hundreds of thousands of Rohingya refugees

⁵⁸ Adler, D., Mgalula, K., Price, D. and Taylor, O. "Introduction of a portable ultrasound unit into the health services of the Lugufu refugee camp, Kigoma District, Tanzania."

⁵⁹Rijken, M., et al. "Obstetric ultrasound scanning by local health workers in a refugee camp on the Thai-Burmese border." *Ultrasound in Obstetrics and Gynaecology* 34.4 (2009); 395-403 (Accessed on 03.06.2017)

⁶⁰ "Zambia." UNHCR - The UN Refugee Agency

who fled violence in Myanmar's Rakhine state. The total of four ambulances is now available to transport critical cases from the refugee camps to the district hospital or NGO-run clinics. Newly integrated health services are made available at the primary healthcare centre. The integrated health centre, a joint effort by UNHCR and UNFPA, will now provide refugees with sexual and reproductive healthcare and maternity and new-born care, all under one roof.

Midwives are recruited by UNFPA, who will ensure that women are taken care of in a professional manner throughout their pregnancy and at the time of delivery. The healthcare centre also includes an adolescent health corner where young people receive information and services specifically targeted for their needs. The same model of services is also available in Nayapara refugee camp in Teknaf, Cox's Bazar. Since 2008, UNFPA has been providing assistance to RTM to implement comprehensive lifesaving sexual and reproductive health services in Nayapara and Kutupalong areas in Cox's Bazar district. The overall objective of the assistance is to reduce maternal and new-born mortality and morbidity among refugees.⁶¹

In some refugee camps in Bangladesh, refugees use farming patches to produce vegetables, garlic and spices to enhance the taste and nutrition of the rations that they receive.⁶² Unfortunately, most camps either do not let refugees participate in agriculture, or there is not enough rainfall or water to do so. Thus, refugees have developed innovative mechanisms for obtaining more food. One of the main ways that refugees obtain more food is through a process called recycling in which they leave the camp and re-enter under a new identity, thereby gaining an extra ration card.⁶³ Recycling in itself is a dangerous process and also contributes to the presence of a black market in many refugee camps.

The UNHCR estimates that more than half of the refugee camps in the world are unable to provide the recommended daily water minimum of 20 litres of water per person per day.⁶⁴ Ensuring that the refugees receive an adequate quantity of water is an important public health issue because lack of clean water is correlated with the presence of diseases such as diarrhoea and cholera.

It is important to address the mental health of refugees because mental illness severely impacts the functioning of a person in many different ways and can also contribute to poor physical health. For example, mental illness often negatively impacts the ability of an individual to engage in economically productive activities, to benefit from educational opportunities, and also makes one more prone to experiencing addictive substance abuse and a dysfunctional family life.⁶⁵

⁶¹http://bdnews24.com/bangladesh/2017/05/28/unfpa-provides-ambulance-improves-healthcare-for-rohingya-refugees-in-coxs-bazar?mc_cid=b2964b6454&mc_eid=8d75858947 (accessed on

⁶²Brujin, B. "Human Development Research Paper 2009/25. *The Living Conditions and Well-being of Refugees.*"

⁶³Eggers, D. *What is the What*, 387.

⁶⁴"Water, Sanitation and Hygiene (WASH)." UNHCR (Accessed on 03.06.2017)

⁶⁵Onyut, L., et al. "Trauma, poverty and mental health among Somali and Rwandese refugees living in an African refugee settlement- an epidemiological study."

Though it is now recognized that the mental health needs of refugees are great, often refugees will not seek mental health care because they are either unfamiliar with the concept of mental health, or they associate a stigma with it.⁶⁶ Thus, initiatives are needed to overcome these barriers to care. One such initiative was carried out by the International Centre for Psychosocial Trauma at the University of Missouri, Columbia. The centre has taught strategies to over 6,500 teachers, mental health professionals, and volunteers about how to alleviate childhood posttraumatic stress disorder and depression. By training teachers as therapists, many obstacles that normally impede care can be overcome, and children can receive early help and assistance.⁶⁷

By training locals in the community and prominent refugees who speak their dialect, they are able to assist with mental health consultancy in a way that makes refugees feel more comfortable with the discussions.

The provision of adequate sanitation services is crucial to prevent communicable diseases and epidemics while ensuring good health and dignity. Though the importance of having adequate latrines is well documented, still 30% of refugee camps do not have adequate waste disposal services or latrines.⁶⁸ In addition to providing latrines and sanitation services, it is also important to provide the population with sufficient resources to curb diseases and epidemics. By promoting the importance of cleanliness in communal bathing and latrine areas, refugees can be made aware of the dangers associated with dirty and contaminated water.

Though there are significant barriers that must be overcome to provide effective healthcare to refugee populations, a number of innovative techniques have worked to improve the health of refugees living in camps.

FEASIBILITY OF THESE CASE STUDIES IN INDIAN FRAMEWORK

India and Africa are sisters belonging to the same supercontinent- The Gondwanaland. This implies a plethora of similarities- geographically, geologically and biodiversity. These similarities were a result of having shared lands, climate and surroundings and they exist till date. The two sisters have been partners in the struggle against colonialism. Africa now shares developmental targets with India, since the two share problems and issues as a result of huge similarities. The two vibrant democracies possess an international standing and there is huge potential if a shared future is targeted. The above models seem to be quite feasible in Indian context, but a specific adoption should be applied to strike a balance. Features that suit Indian scenario could very well be adopted in framing of Municipal laws or policy frameworks. The above

⁶⁶ Crowley, C. "The mental health needs of refugee children: A review of literature and implications for nurse practitioners."

⁶⁷ Lamberg, L. "Psychiatrists Strive to Help Children Heal Mental Wounds from War and Disasters." *The Journal of the American Medical Association*. 300.6 (2008): 642-643 (Accessed on 03.06.2017)

⁶⁸ UNHCR, "Access to Water in Refugee Situations."

mentioned success stories, in form of case studies could very well be analysed and deliberated upon. Not following them through a strait jacket formula, but adopting what suits Indian context, could be a conflict resolution mechanism when dealing with Refugees.

RECOMMENDATIONS

The right to health as a concept has not yet fully ripened into a uniform applicable, enforceable thought, and as such is still in transitory form. Holistic development ensures that minimum standards of services (i.e. primary health care) need to be furnished to all the persons within a state, irrespective of immigrant status. Developing norms suggested that long-settled immigrants are entitled to health care benefits and services on terms generally provided to citizens at large. One needs to bring about a harmonious construction between two aspects – first, the moral imperatives reflected in human rights law and the other the modern public health services that are brought to be borne by the Government of the welcoming State. This pitch needs to be expounded; both at the legislative and policy framework level, as well as minimum standards should not be compromised upon.

Coming to India, the following recommendations must be pondered and deliberated upon:

- ❑ With the given fact that extending asylum is a sovereign function of any State, both the Centre and State governments must commence the establishment of an institutionalized asylum process like UNHCR's Refugee Status Determination ("RSD") process.
- ❑ Issuing guidelines to warrant transparency, equity and culpability in the process.
- ❑ Issue guidelines to all states to direct private hospitals on public land to provide free healthcare to the EWS of society, including refugees/asylum seekers, and to allow self-declarations of income to be submitted as proof of economic status.
- ❑ Contemplate generating opportunities for long-staying refugees of all nationalities to have access to documentation and socio-economic welfare schemes at par with Tibetan and Sri Lankan refugees (best practice models).
- ❑ Providing access by refugees to free healthcare services in private hospitals along the lines of that presented by the Government of Delhi, in other states as well.
- ❑ Coordinate with the charitable wing of other private hospitals and civil society organisations providing healthcare services.
- ❑ Mediate with existing trauma counselling centres with expertise on conflict-induced trauma to extend their services.

- ❑ Participate with legal practitioners, activists in healthcare sector to yield healthcare related law and policy.
- ❑ Proactively spread awareness of and spread information about health schemes for refugees which do not require citizenship for access, such as Aganwadi Scheme.
- ❑ Integrate the best innovative models present before us, such as ‘technology, production and partnership innovation in Uganda, to substantially reduce UNHCR’s expenditure on essential hygiene items, such as sanitary pads for women.⁶⁹
- ❑ To be exposed to various practices worldwide and striking balance, thereby giving life to a sound policy to deal with health issues in Refugee camps.

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⁶⁹Since 2007 a partnership between UNHCR, the Government of Uganda and ‘MakaPads’ inventor Moses Musaazi has helped provide affordable sanitary pads for thousands of refugee girls and women while substantially reducing UNHCR’s expenditure on these essential commodities. See Humanitarian Innovation Project (HIP) Mission Report #4: *Technology and Innovation in Kampala – June 2013* www.oxhip.org/wp-content/uploads/HIP-Mission-Report-4-FINAL.pdf

The Accountability of Investment Climate and Democracy to Institutional Determinants of Sectoral FDI: A case study of Eastern European and Central Asian Countries since 1990's

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ABSTRACT

This study attempts to investigate the determinants of the sectoral distribution of foreign direct investment (FDI) in Eastern Europe and Central Asia, focusing on the investment climate and state of democracy. Using a dynamic system generalized method of moments estimator, the study examines twenty-one countries for the period 1994–2018. The analysis of these quantitative findings is that when human capital is controlled for, the host country investment profile has a positive effect on agricultural FDI and the host country state of democracy positively affects agricultural and manufacturing FDI. In addition, services FDI is attracted by educated labor, whereas FDI to other sectors is attracted by cheap labor. Moreover, natural resource endowments have a positive impact on FDI in the sectors of agriculture and manufacturing.

Keywords: Democratic accountability, institutional determinants, investment profile, sectoral FDI

INTRODUCTION

The global financial crisis of 2008 did not spare foreign direct investment (FDI) flows. According to the United Nations Conference on Trade and Development (UNCTAD), in spite of a moderate increase, to \$1.24 trillion in 2010, global FDI is still 15 percent below its \$1.4 trillion to \$1.6 trillion precrisis average (UNCTAD 2011). A prominent characteristic of this recovery, however, is the leading role developing economies play. For the first time, developing and transition economies together attracted more than half of global FDI flows (UNCTAD 2018), while FDI to developed economies is still declining (Figure 1). Although multinational enterprises (MNEs) continued investing in these “new FDI powerhouses” in both efficiency- and market-seeking projects, the main concerns about the postcrisis business environment remain. One of the main risk

factors, along with the risks of sovereign debt crises and fiscal and financial sector imbalances, is unpredictability of economic governance (UNCTAD 2018). Since, the FDI recovery brought major sectoral differences, with only manufacturing FDI rising and services FDI still declining, the question about the sectoral implications of good governance, and good institutions in particular, is a potentially important question for the postcrisis FDI recovery. Institutional and other determinants of FDI have been relatively well examined at the aggregate level, but there is a broad literature gap with respect to FDI determinants at the sectoral level, as there are almost no sectoral studies.¹ This study investigate that such studies are particularly important for emerging market and developing economies since their institutional environments are typically weaker than those of developed countries. The study also argue that the sectoral level of analysis is of significance since different sectors are characterized by different FDI regulations.² These differences are often guided by noneconomic reasons, such as national security concerns, causing market distortions that can be controlled for at the sectoral level of analysis.

The purpose of this study is to examine the determinants of sectoral FDI at a regional level, focusing on the region of Eastern Europe and Central Asia (EECA), emphasizing the role of Institutional determinants, such as investment climate and state of democracy, in this region.

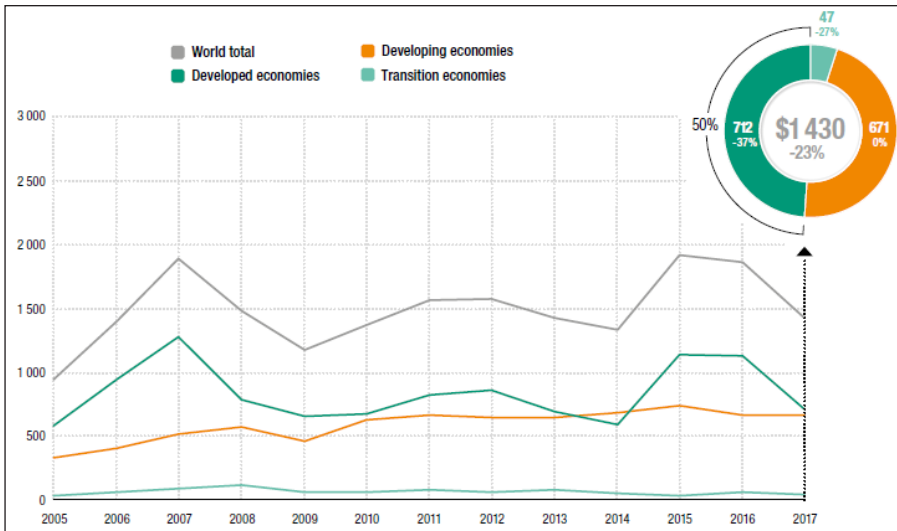


Fig. 1: FDI Inflows, global and by group of economies, 2005-2017 (Billions of dollars and percent)

Source: UNCTAD, World Investment Report, 2018.

The study examine twenty-one countries for the period 1994–2018 using a dynamic panel Blundell–Bond generalized method of moments (GMM) estimator, following the

methodology of Arellano and Bover (1995) and Blundell and Bond (1998). The GMM estimator allows us to exploit both the time series dynamics and the pooled country characteristics of the data while controlling for endogeneity and omitted variable biases. The study conduct the analysis in three sectors: agriculture, manufacturing, and services, controlling for the effects of the level of economic development, human capital, and natural resource endowments. The main findings support the hypothesis that when controlling for the endowment of human capital, institutional quality matters more for attracting agricultural and manufacturing FDI to the EECA region than it does for attracting services FDI. More specifically, a country's investment profile and democratic accountability, as defined by the *International Country Risk Guide (ICRG)* (PRS Group 2012) affect sectoral FDI differently: the investment profile has a significant positive effect only on agricultural FDI, whereas the state of democracy has a multisector effect on FDI: It positively affects the inward foreign direct flows to both agriculture and manufacturing. The institutional determinants become significant in the determination of services FDI only if human capital is excluded from the study, suggesting that it is in fact the true determinant. The estimates on human capital lead us one step further: they provide evidence FDI being attracted by cheap labor. Since this study is conducted at the sectoral level, it has been able to distinguish between effects on FDI in different sectors. The estimates of human capital suggest that foreign direct investment in services industries is attracted by educated labor, whereas FDI flowing to the other sectors is attracted by cheap labor. Natural resource endowments, however, are a stimulus for agricultural and manufacturing FDI, but not for services FDI.

LITERATURE REVIEW

In spite of a large volume of studies, the interest in the determinants of foreign direct investment in developing countries is growing, not decreasing. FDI is considered a stable component of foreign capital inflows to developing countries and a vehicle for spreading technological innovations from more technologically advanced economies. As such, one of the most often scrutinized determinants of FDI inflows, especially in developing countries, is the quality of the local institutional environment. Well-governed institutions are supposed to exert a positive influence on investment in general since investors face a more stable, less risky environment and higher expected rates of return. Foreign investors in general dislike the uncertainty that results from governance inefficiencies, policy reversals, and lack of enforcement of the property rights. The quality of institutions is of a great importance especially for poor countries since their shares of FDI in gross domestic product (GDP) are large. For these countries, FDI represents a very important channel through which good institutions affect economic growth and development in general.

The literature on the impact of institutions on FDI starts in the 1990s. Some of the earlier studies attempt to study this effect with the help of an index. Wheeler and Mody (1992) create an index using the first principal component of thirteen risk factors,

including bureaucratic red tape, political instability, corruption, and the quality of the legal system, but also including factors such as living environment of expatriates and inequality, which are not directly related to quality of institutions. They fail to find a significant impact of “good” institutions on the location of American foreign affiliates. Later studies by Stein and Daude (2001) and Wei (2000) discuss the effects of corruption on FDI and argue respectively for and against the finding that corruption is an impediment to FDI. At the same time, Kaufman *et al.* (1999) show that five out of six governance indicators tested matter for FDI. The significant indicators are: political instability and violence, government effectiveness, regulatory burden, rule of law, and graft; the no significant indicator is voice and accountability (Kaufman *et al.* 1999). Further studies by La Porta *et al.* (1998) show that risk of repudiation of contracts by government, risk of expropriation, and shareholder rights also matter. An argument is also raised that quality of institutions matter equally for inward and outward FDI since well-governed institutions also create the regulatory environment in which multinational companies emerge (Globerman and Shapiro 2002).

Another focus of the literature on the institutional determinants of FDI is the process of democratization. Earlier studies point out that the theoretical impact of democracy on FDI is unclear (Jensen 2003; Li and Resnick 2003). Democratic institutions are assumed to have a positive impact on the entire economy through the process of checks and balances on elected officials.

Value and number of announced FDI greenfield projects, by sector and selected industries, 2016–2017

	Value (billions of dollars)			Number		
	2016	2017	%	2016	2017	%
Total	833	720	-14	15 766	15 927	1
Primary	54	21	-61	52	63	21
Manufacturing	295	338	14	7 703	7 678	0
Services	484	362	-25	8 011	8 186	2
<i>Top 10 industries in value terms:</i>						
Electricity, gas and water	129	95	-26	404	296	-27
Business services	96	80	-16	4 125	4 278	4
Motor vehicles and other transport equipment	56	62	12	1 077	1 103	2
Construction	126	62	-51	322	276	-14
Chemicals and chemical products	43	61	42	804	856	6
Electrical and electronic equipment	44	52	20	1 005	958	-5
Transport, storage and communications	56	41	-26	935	903	-3
Trade	27	32	21	902	1 001	11
Food, beverages and tobacco	24	29	17	596	664	11
Textiles, clothing and leather	28	28	1	1 558	1 476	-5

Fig. 2

Source: UNCTAD, World Investment Report, 2018

They may, however, have a negative effect on FDI, since foreign investors may be in position to receive better incentives from autocratic regimes than from democracies. Several studies empirically demonstrate a positive effect of democratic institutions on FDI (Harms and Ursprung 2002; Kolstad and Tøndel 2002; Li 2009; North and Weingast 1989). They ascribe this effect to reduced arbitrary government interventions and lower risk of policy reversals, along with the strengthening of the protection of property rights. A more recent study by Asiedu and Lien (2011) examines whether the effects of democratization on FDI differ in countries endowed with or poor in natural resources. They find that democracy affects FDI positively in countries where the share of natural resources in total exports is low and negatively in countries where the share of natural resources in exports is high. Azman-Saini *et al.* (2010) investigate a link between economic freedom, foreign direct investment, and economic growth. Based on a panel of eighty-five countries, they find that FDI influences growth only if paired with economic freedom among the regional studies, Campos and Kinoshita (2003) and Méon and Sekkat (2004) find that in transition economies and Middle East and North African (MENA) countries, good governance attracts foreign investment. Harms and Ursprung (2002) illustrate further that a country’s degree of political risk negatively affects inward FDI. Ok (2004) examines data collected through a survey of managers and expatriates of firms having foreign capital in Turkey, and describes economic and political instability as the most significant obstacle to foreign investment. In line with the above, Moskalev (2010) also finds that better governed countries (based on Kaufmann *et al.*’s [2005] worldwide governance indicators) attract more FDI. In addition, he finds that in a good institutional environment, foreign MNEs possess fewer business advantages than domestic firms.

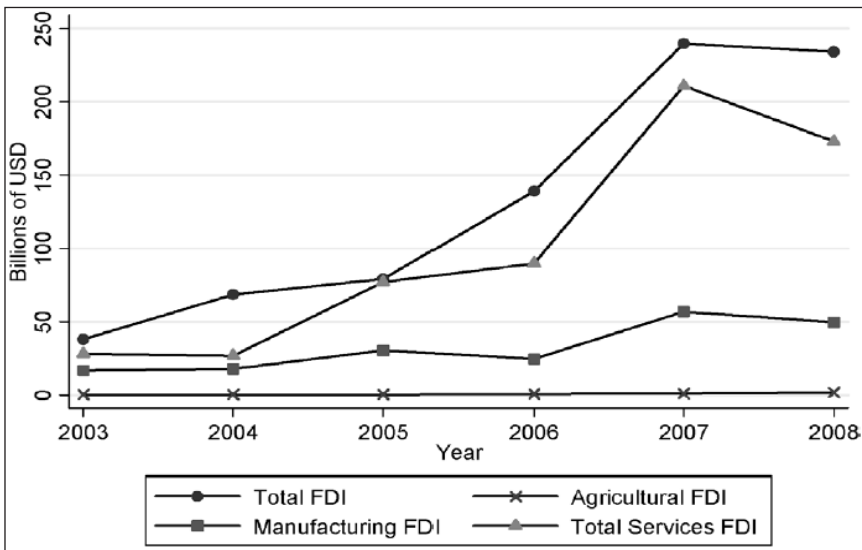


Fig. 3: FDI Inflows to Eastern to Central Asia

Source: World Investment Report.

More recently, the use of a gravity model has enabled testing for the impact on FDI of the institutional distance defined as the extent of similarity or dissimilarity between the regulatory, cognitive, and normative institutions of two countries (Xu and Shenkar 2002). In this respect, Bénassy-Quéré *et al.* (2007) find that institutional quality, as measured by bureaucracy, lack of corruption, information, banking sector, and legal environment, do matter for inward FDI. At the same time, weak capital concentration and employment protection have the opposite effect, and reduce inward FDI. No such general results apply to outward FDI.

Meanwhile a long list of studies examines the impact of corruption on inward FDI. Corruption, which is broadly defined as the misuse of power by public officials for private gain (Bardhan 1997), affects economic development in general and is a typical problem in low-income economies (Abed and Gupta 2002; Easterly 2001). Corruption has implications for economic growth (Ehrlich and Lui 1999; Mauro 1998, 2002; Shleifer and Vishny 1993), inequality (Gupta *et al.* 2002), inflation (Cukierman *et al.* 1992), real exchange rates (Bahmani-Oskooee and Nasir 2002), and public goods (Mauro 1998, 2002; Tanzi and Davoodi 2000). In the 2000s, researchers began to focus more on the impact of corruption on inward FDI. Since corruption is a sign of an unfavorable institutional environment, studies hypothesize that high levels of corruption (the “grabbing hand” of domestic institutions) increases costs for multinationals and decreases the incentive to invest. Surprisingly, however, the empirical evidence is not so clear cut. Whereas Habib and Zurawicki (2002), Smarzynska and Wei (2000), and Wei (2000) find that corruption tends to impede FDI, Akcay (2001) does not find a significant relationship, and Egger and Winner (2003, 2005) demonstrate evidence in support of the hypothesis that corruption may act as an incentive for FDI. The intuition behind this result is that corruption can help multinationals circumvent regulatory and administrative restrictions, since in low-income countries these are oftentimes used to allow government officials to share in the profits from foreign investment.

The debate on the impact of corruption continues to this day. In a recent study, Javorcik and Wei (2009) use firm-level data and focuses on emerging market economies and find that for the set of countries examined, corruption not only reduces inward FDI, but also shifts the ownership structure toward joint ventures. The existence of corruption, the authors argue, makes a local subsidiary necessary to cut through the bureaucratic labyrinth.

Finally, a group of relatively new studies investigate the role of investment climate in attracting FDI to developing countries. Using firm-level data across seventy-seven developing countries, Kinda (2010) finds that constraints related to the investment climate, such as physical infrastructure problems, financing constraints, and institutional problems, hamper FDI. The results also highlight that foreign firms are more constrained in their activity by physical infrastructure hurdles and the lack of skilled workers than are firms supplying the domestic market. Rutkowski (2006) provides a firm-level study that concludes with some evidence that FDI reduced

foreign subsidiaries' financial constraints without increasing the constraints suffered by domestic enterprises. These results are supported by Sekkat and Veganzones-Varoudakis (2007), who assess the effects of openness and investment climate on FDI. The authors demonstrate that infrastructure availability and sound economic and political conditions increase the attractiveness of developing countries to foreign investors and that these results are especially strong in Africa, the Middle East, and South Asia. Galego *et al.* (2004) examined the probability of FDI diversion from the EU periphery to Central and Eastern European countries, and also touched on the sectoral characteristic of the impact, finding that the impact of these factors is higher on FDI in the manufacturing sector than on total FDI. The interest in sector-level analysis of FDI has been recent. This study were able to locate only two journal articles that discuss the determinants of FDI in the sector of services (Golub 2009; Kolstad and Villanger 2008) and no articles that focus on inter sector comparisons.

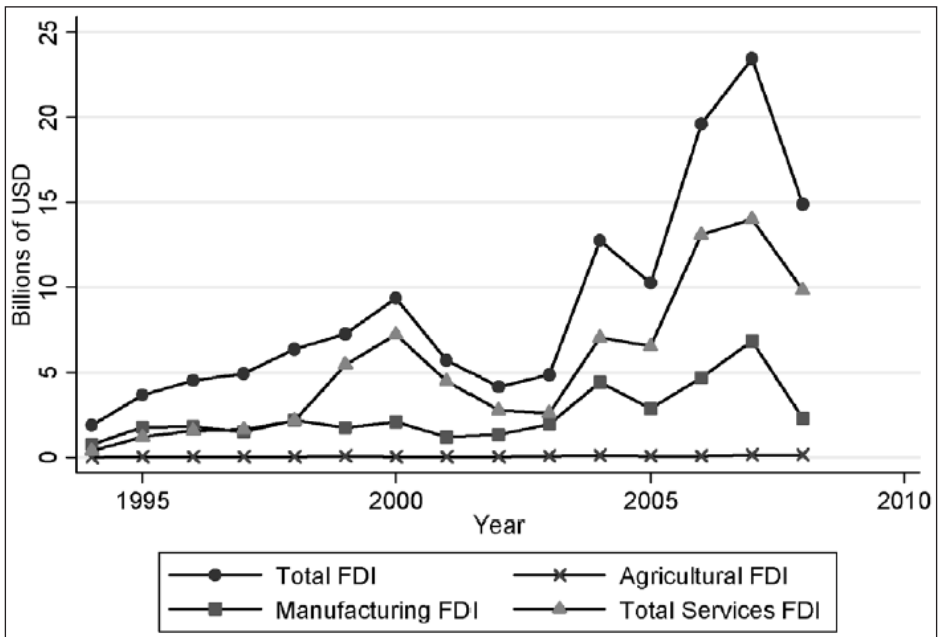


Fig. 4: FDI Inflows to Poland

Source: UNCTAD, World Investment Report, 2011.

Golub (2009) attempts to systematically analyze the policies toward service FDI, focusing on the pattern of restrictions in the service sector. Based on indices of barriers to foreign ownership and operational restrictions on foreign firms, the study finds that the most heavily restricted industries are those that are highly sensitive to national security or national sovereignty considerations: telecommunications, transportation, finance, and electricity. It also illustrates that the most open countries with respect

to FDI in services tend to be in Eastern and Western Europe and Latin America, whereas East Asia, the Middle East, and South Asia tend to have greater restrictions. The second study, Kolstad and Villanger (2008), also examines the host country determinants of FDI in services, but without making cross-sectoral comparisons. With the help of a fifty-seven-country sample, the authors demonstrate that institutional quality and democracy are more important for attracting FDI in services than are investment risk and political stability. In addition, democracy is found to be more important in developing than in developed countries, with a threshold level below which a country is unable to attract FDI. Moreover, consistent with the nontradability of services hypothesis, the study also finds that services FDI is seeking a market and unaffected by trade openness. Another study (Walkenhorst 2004) assesses the factors that influence the distribution of FDI across industries and countries of investor origin.

SELECTED STYLIZED FACT

A prominent characteristic of sectoral FDI in the EECA region in the examined period is the surge of services FDI. This rise of the share of services FDI in total FDI flows is still an on-going worldwide phenomenon that has well-documented implications for economic growth (Doytch and Uctum 2011).

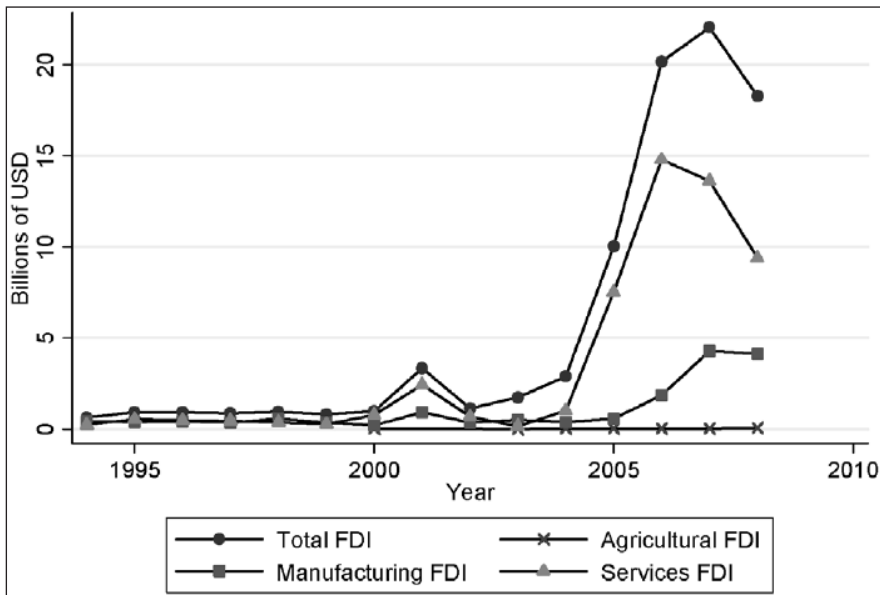


Fig. 5: FDI Inflows to Turkey

Source: UNCTAD, World Investment Report, 2011.

In the last five years of the period studied, services FDI to the EECA increased tenfold, from \$18 million to \$180 million. The main industries in the services sector are wholesale

and retail trade, including hotels and restaurants; transportation; and government, financial, professional, and personal services such as education, health care, and real estate services. The recent surge in services FDI is due to a large extent to financial FDI, but is not limited to it (Fig. 2). At the same time, the increase in manufacturing FDI is more moderate: for the five years of the period studied, manufacturing FDI increased only from \$16 million to \$85 million, while Primary as well as agricultural FDI remained practically unchanged (Fig. 2). Figs. 3 to 8 represent the cases of several selected countries: Croatia, Czech Republic, Estonia, Poland, and Turkey, The rise of services FDI is clearly visible on all five graphs. In most of these countries, this rise is supplemented by an increase in manufacturing FDI, while agricultural FDI is typically unchanged.

CONCEPTUAL FRAMEWORK, DATA, AND EMPIRICAL METHODOLOGY

We base our conceptual model on an augmented gravity equation for FDI, following the general equilibrium model developed by Anderson and van Wincoop (2003) and Helpman *et al.* (2008), as summarized by Waglé (2011):

$$FDI = \frac{Y_i Y_j}{Y} \left[\frac{\tau_{ij}}{\Pi_i P_j} \right]^{1-\sigma} V_{ij}$$

where, i is an index for the home country and j is an index for the host country; Y indicates income; Π_i is outward, multilateral resistance; P_j represents barriers to inward FDI; V_{ij} captures the fraction of the firms that are able to undertake FDI; τ_{ij} represents transaction costs; and σ is a constant for the elasticity of demand.³

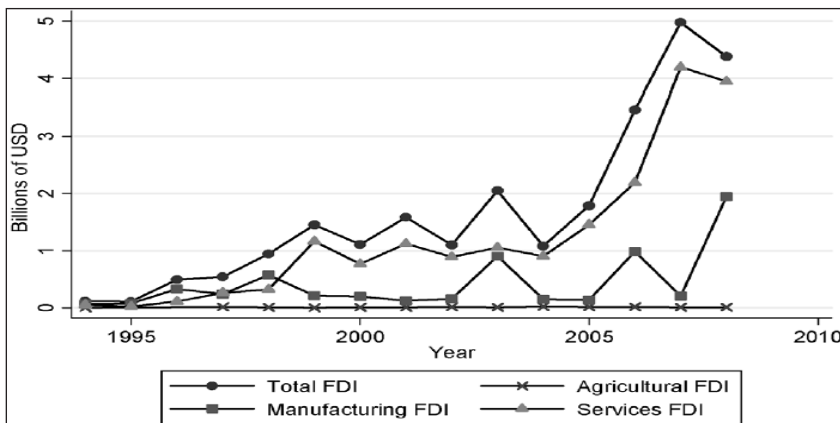


Fig. 6: FDI Inflows to Croatia

Source: UNCTAD, World Investment Report, 2011.

Conceptual Framework

The aggregate location of FDI across the world depends on the decisions of millions of multinational enterprises, influenced by both host-country and home-country factors. At the firm level, the question of FDI activity, and particularly what motivates a firm to choose to invest in a production affiliate rather than exporting, is answered with firm specific intangible assets, such as technologies or managerial skills, for example.⁴ At the national level, inward FDI is determined by a set of exogenous macroeconomic factors and policies.

Following a methodology by Blonigen (2005) and Waglé (2011), this study utilizes a model deduced from a general equilibrium framework to analyze external factors affecting FDI activity. The factors analyzed by this framework are: market size, market growth potential, exchange rates, taxes, political stability, clustering of foreign firms, trade protectionism/openness, trade volumes, and institutions:

- ❑ *Market size:* The hypothesis is that MNEs target countries with large domestic markets and higher market growth potential;⁵
- ❑ *Exchange rates:* FDI is expected to be attracted by weaker real exchange rates;⁶
- ❑ *Taxes:* The impact of taxes on FDI has been a point of interest for both international economics and public economics. They both hypothesize that higher taxes discourage inward FDI and encourage outward FDI.⁷ Multiple studies have tested for the magnitude of this effect.⁸
- ❑ *Institutions and political stability:* Countries with better institutions and more stable political environments attract more FDI.⁹
- ❑ *Agglomeration:* The presence of other foreign firms is expected to motivate FDI.¹⁰
- ❑ *Trade volume/trade openness:* There is still a debate in the literature as to whether FDI replaces or complements trade. Buckley and Casson (1981) lay out a model comparing FDI and trade, with the only difference between the two being captured by a relatively higher fixed cost in the case of FDI. The firm-level argument, based on transaction cost economics and mentioned above, is that FDI is to be treated as a substitute for trade. The empirical evidence, however, has not definitively supported this view (Lipsey and Weiss 1981, 1984; Singh and Jun 1995).
- ❑ *Trade openness:* The hypothesis is that trade protectionism stimulates “tariff jumping FDI.”¹¹

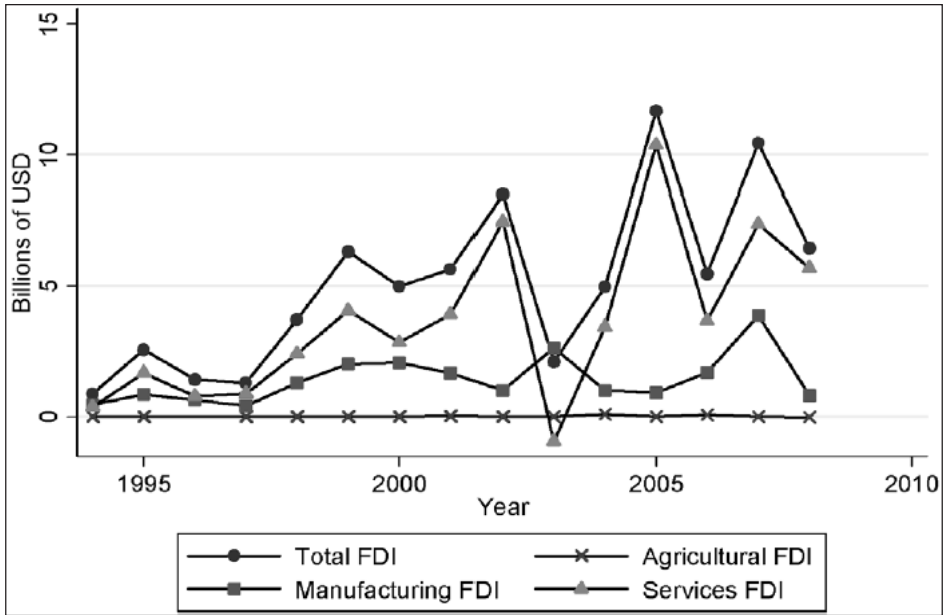


Fig. 7: FDI Inflows to Estonia

Source: UNCTAD, World Investment Report, 2011.

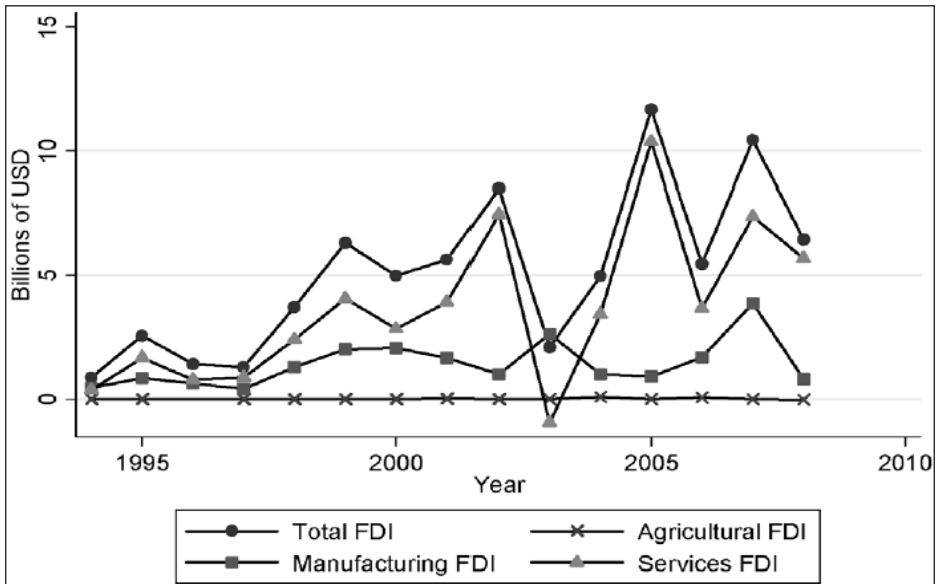


Fig. 8: FDI Inflows to Czech Republic

Source: UNCTAD, World Investment Report, 2011

Data and Empirical Methodology

The empirical model of this Study attempts to analyze is :

$$\begin{aligned} \text{Log} (FDI_{it}^j) = & \beta_0 + \beta_1 \log (FDI_{it-1}^j) + \beta_2 y_{it}^j + \beta_3 \\ & Growthy_{it}^j + \beta_4 School_{it} + \beta_5 Inst_{it} + \beta_6 Res_{it} \\ & + RER_{it} + \mu_i + \eta_t + \varepsilon_{it}, \mu_i \sim \text{i. i. d. } (0, \sigma_{\mu_i}), \varepsilon_{it} \sim \text{i. i.} \\ & \text{d. } (0, \sigma_{\varepsilon}), E[\mu_i \varepsilon_{it}] = 0. \end{aligned}$$

- FDI_{it}^j is defined as the natural logarithm of respective sector FDI inflows computed as a ratio of GDP. All FDI series are net inflows, account for the purchases and sales of domestic assets by foreigners in the corresponding year, and are in current U.S. dollars. The data were compiled from the Organization for Economic Cooperation and Development Web site (all OECD countries), the UNCTAD, Statistics of FDI in ASEAN, and national government institutions and investment agencies' Web sites. The primary sources for data on FDI by industry are most often specialized government investment boards and agencies, and sometimes general statistical agencies or ministries. j is an index for total, agricultural, manufacturing, and services FDI.¹²
- Y_{it}^j is real GDP per capita. It is compiled from World Development Indicators (WDI) and included in the model as a proxy for market size.
- $Growthy_{it}^j$, the growth rate of real GDP per capita, is also collected from WDI and is included in the model as a proxy for market growth potential.
- $School_{it}$ is the *gross secondary school enrollment ratio*, which is defined as the ratio of total enrollment, regardless of age, to the population of the age group that officially corresponds to the level of education shown. The schooling variable is compiled from the United Nations Educational, Scientific, and Cultural Organization (UNESCO) and World Development Indicators. The “schooling” variable is used in this study as a proxy for human capital endowment. It brings novelty to the model. The expected sign of the effect of human capital on attracting FDI is uncertain. On the one hand, we would expect high-quality human capital to act as a stimulus for FDI, but on the other hand, if the hypothesis for low-wage-seeking FDI is true, it should act as a deterrent to FDI. It should also be expected that FDI inflows to different sectors would be affected differently by the human capital endowment. So far, the question of human capital's impact on FDI has not been studied well. There are some studies that focus on the effect of wages on inward FDI instead. For example, Onaran and Stockhammer (2008) describe evidence in support of FDI being attracted by low wages.
- $Inst_{it}$ is the key explanatory variable. This study focuses on the impact of the country's investment profile and democratic accountability, both compiled

from the ICRG. The aim of ICRG is to assess the state of the institutions of the countries covered on a comparable basis. The working definition of democracy that ICRG uses includes, for example, the following features: a government/ executive that has not served more than two successive terms; free and fair elections for the legislature and executive, as determined by constitution or statute; active presence of more than one political party and a viable opposition; evidence of checks and balances among the three branches of government (executive, legislative, and judicial); evidence of an independent judiciary; and evidence of the protection of personal liberties through constitutional or other legal guarantees (PRS Group 2012). The measure of democratic accountability thus reflects how responsive a government is to its people: the less responsive it is, the more likely it is that the government will fall—peacefully in a democratic society, but possibly violently in a nondemocratic one (PRS Group 2012). The investment profile is a measure of the government’s attitude toward inward investment, as determined by the ICRG’s assessment of four subcomponents: the risk to operations (scored from 0 [very high risk] to 4 [very low risk]); taxation (scored from 0 to 3, corresponding to very high, high, medium, and low risk); repatriation (scored from 0 to 3); and labor costs (scored from 0 to 2, corresponding to high, medium, and low) (PRS Group 2012).

- Res_{it} is the natural resources rents share of GDP, including rents generated by coal, forest, mineral, natural gas, and oil resources.¹³ Accounting for natural resource endowments as determinants of FDI is another innovation brought to the model. Except for the study by Asiedu and Lien (2010), which looks at whether democracy affects FDI differently depending on whether a country is endowed with natural resources or not, the authors are not aware of other studies accounting for the impact of natural resource endowments. We hypothesize that the natural resources factor has potentially different implications for FDI inflows to agriculture, manufacturing, and services, and believe that estimating their impact on total FDI inflows it is also of interest.
- RER_{it} the real effective exchange rate, is defined as the nominal effective exchange rate (a measure of the value of a currency against a weighted average of several foreign currencies) divided by a price deflator or index of costs.
- The variables μ_i and η_t are, respectively, a country-specific and a time-specific effect represented by year dummies. The country-specific effect that is most commonly used is a fixed (within-group) effect because a random effect assumes an independent distribution of the explanatory variables from the individual effects, an assumption that is violated between $FDI_{i,t-1}^j$ and μ_i the time-specific effect is a row vector of fifteen year-dummy variables for the period 1994–2018. The twenty-one countries included in the study are Albania, Armenia, Azerbaijan, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Kazakhstan, Kyrgyzstan, Latvia, Lithuania,

Macedonia, Moldova, Montenegro, Poland, Romania, Russia, Slovakia, and Turkey.¹⁴

The method for this study is the dynamic Blundell–Bond “system” GMM estimator. It argues that the trivial static estimators, such as pooled ordinary least squares (OLS) and fixed effects are not appropriate for this study. Pooled OLS fail to account for the time-series dimension of data, the unobserved country-specific (fixed) effects that cause an omitted variable bias, and potential endogeneity problems. Fixed-effects estimators control for the unobserved country-specific time-invariant effects in the data. However, they correct for the possible correlation between these effects and some of the independent variables by conditioning them out through taking deviations from time averaged sample means. Such a procedure strips the dependent variable of its long-run variation and does not allow for capturing the dynamic characteristics of the data. Fixed effects estimators do not solve the potential problem of the endogeneity of the key explanatory variables either.

The Blundell–Bond system GMM uses lagged level observations as instruments for differenced variables and lagged differenced observations as instruments for level variables, thereby constructing a matrix of “internal” instruments. It has one set of instruments to deal with the endogeneity of regressors and another set to deal with the correlation between lagged dependent variables and the induced moving average error term. A necessary condition for the system GMM is that the error term must not be serially correlated, and especially not second-order serially correlated, otherwise the standard errors of the instrument estimates grow without bound. For this reason, Arellano and Bond (1991) developed a second-order autocorrelation test on which we base our analysis.¹⁵

The system GMM estimator requires one more thing: even if the unobserved country specific effect is correlated with the regressors’ levels, it must not be correlated to their differences. This requirement also means that the deviations of the initial values of the independent variables from their long-run values are not systematically related to the country-specific effects.¹⁶

EMPIRICAL RESULTS

The results summaries are presented in Tables 1 and 2. Table 1 presents the results of the four regressions run with *investment profile* as the key explanatory variable. The four regressions have, respectively, total FDI, agricultural FDI, manufacturing FDI, and services FDI as dependent variables. The results of these four models are illustrated along the four table columns, titled, respectively, “Total FDI,” “Agriculture FDI,” “Manufacturing FDI,” and “Services FDI.” The table rows list the regression coefficients of the explanatory variables, whose effects we study. Table 2 is organized in the same way, except that here the key explanatory variable is *democratic accountability*.¹⁷

Table 1: Summary of regression coefficients for models run with investment profile

<i>Log of FDI as a Share of GDP</i>	<i>Total FDI/GDP</i>	<i>Agriculture FDI/GDP</i>	<i>Manufacture FDI/GDP</i>	<i>Services FDI/GDP</i>
Log of lagged FDI/GDP	0.485*** (5.86)	0.573*** (4.61)	0.464*** (3.90)	0.695*** (6.57)
Real GDP per capita	-0.00009*** (-3.32)	-0.0001*** (-2.86)	-0.00002 (-0.42)	-0.00002 (-1.25)
Real GDP growth rate	-1.094 (-0.61)	7.577** (2.58)	-0.315 (-0.18)	-2.318 (-1.59)
Investment profile	0.072 (1.57)	0.258*** (2.61)	0.012 (0.22)	0.049 (0.92)
Gross secondary School enrollment	1.702** (2.41)	-4.029 (-1.53)	1.962 (1.49)	1.309** (2.05)
Natural resources Rents share of GDP	-0.052 (-0.08)	-0.068 (-0.05)	0.193 (0.44)	-0.496 (-0.86)
Real exchange rate	0.427 (0.33)	-0.844 (-0.57)	0.487 (0.27)	2.389* (1.70)
Number of Observations	255	97	156	149
Number of countries	21	18	18	18
AR (2)	0.538	0.126	0.980	0.403

Notes: The first entry in each cell is the estimate of the respective explanatory variable coefficient on the FDI share of GDP. Figures in parentheses are *t*-statistics. The coefficients and the *t*-statistics are robust to heteroskedasticity and obtained from a one-step Blundell–Bond system GMM with instruments constructed for the lagged level of FDI, GDP per capita, and the respective institutional variable. ***, **, and * significance levels at less than 1 percent, 5 percent, and equal to or less than 10 percent, respectively.

In summary, focusing first on the two key explanatory variables of interest, *investment profile* and *democratic accountability*, we find stronger evidence in support of the importance of the latter variable. Democratic accountability tends to act as a stimulus for inward FDI in both the agricultural and manufacturing sectors. It appears to significantly influence of total inward FDI as well. In comparison, the investment profile has a positive influence on agricultural FDI only. Overall, the lesson from both tables is that in Eastern Europe and Central Asia, inward agricultural FDI is sensitive to the quality of institutions.

The significance of institutional quality, however, is not the only interesting result of this study. The coefficients of several variables that are hypothesized to have a positive impact on FDI have surprising signs. Real per capita GDP, which we use a proxy for market size, is found to have a negative impact on FDI in the region of interest (Tables 1 and 2, row 2), or at best no significant effect (Tables 1 and 2, row 2). The negative effect is best demonstrated within the agriculture industry (Tables 1 and 2, row 2, column 2). In other words, it is not the countries with large GDP per capita that attract more foreign direct investment. In the case of the agricultural industry, it is the other way around: the underdeveloped countries from the region attract more FDI.

The proxy variable for market growth potential also produces surprising results. If we approximate the market growth potential with the growth rate of GDP, the results of this study suggest that the only industry in which the growth of GDP matters for inward FDI is the agriculture industry (Tables 1 and 2, row 3, column 2). The estimate regression coefficients for GDP growth are also rather large: 7.577 and 10.524 (Tables 1 and 2, respectively). They suggest that any 1 percent increase in the growth rate can potentially increase agricultural FDI's share in output by as much up as 10 percent.

Table 2: Summary of regression coefficients for models run with democratic accountability

<i>Log of FDI as a Share of GDP</i>	<i>Total FDI/GDP</i>	<i>Agriculture FDI/GDP</i>	<i>Manufacture FDI/GDP</i>	<i>Services FDI/GDP</i>
Log of lagged FDI/GDP	0.464*** (6.06)	0.687*** (5.90)	0.528*** (5.69)	0.638*** (5.58)
Real GDP per capita	-0.00007*** (-2.59)	-0.0001*** (-2.94)	-0.00006 (-1.02)	-0.00002 (-0.67)
Real GDP growth rate	-0.537 (-0.28)	10.524*** (3.01)	-1.398 (-0.64)	-1.983 (-1.35)
Democratic Accountability	0.117* (1.81)	0.718*** (3.32)	0.214** (1.94)	0.011 (0.09)
Gross secondary School enrollment	1.894** (2.44)	-2.957 (-1.54)	1.223 (1.43)	2.089*** (2.91)
Natural resources Rents share of GDP	0.568 (0.73)	5.653** (2.17)	1.361** (2.18)	-0.648 (-0.69)
Real exchange rate	0.397 (0.30)	-2.303 (-1.13)	1.431 (0.72)	2.468 (1.57)
Number of Observations	255	97	156	149
Number of countries	21	18	18	18
AR (2)	0.581	0.098	0.834	0.412

Notes: The first entry in each cell is the estimate of the respective explanatory variable coefficient on the FDI share of GDP. Figures in parentheses are *t*-statistics. The coefficients and the *t*-statistics are robust to heteroskedasticity and obtained from a one-step Blundell–Bond system GMM with instruments constructed for the lagged level of FDI, GDP per capita, and the respective institutional variable. ***, **, and * significance levels at less than 1 percent, 5 percent, and equal to or less than 10 percent, respectively.

It is interesting to analyze the performance of the human capital variable, *secondary school enrollment ratio*, since, as mentioned above; its impact on FDI has not been documented very well. As expected, the quality of human capital is more important in determining services FDI than in determining manufacturing or agricultural FDI (Tables 1 and 2, row 5, column 4). This impact can be seen at the overall FDI level as well (Tables 1 and 2, row 5, column 1). Although not significant, the human capital variable has a positive sign in the manufacturing regressions (Tables 1 and 2, row 5, column 3), and notably, a negative sign in the agriculture FDI regressions (Tables 1 and 2, row 5, column 2). The negative sign reminds us of the argument that certain

kinds of FDI are much more motivated by low wages (payable to low-quality human capital) than by a high overall level of schooling (UNCTAD 2004). From our results, it appears that agricultural FDI in Eastern Europe and Central Asia is the kind that seeks low wages and that services FDI is attracted by highly skilled local workers.

Another novelty introduced into the model is to control for the *natural resource endowments* of the domestic economy, measured by their rents relative to GDP. This Study hypothesized that natural resources should perhaps be a more important factor for agricultural and maybe manufacturing FDI, and less important for the determination of services FDI inflows. The two sets of models, with controls for investment profile and democratic accountability, respectively, differ in the evidence they produce. When this Study control for the investment profile of the domestic economy, natural resource endowments seem to be irrelevant for attracting FDI (Table 1, row 6). If this Study control for democratic accountability (Table 2, row 6), we get a different picture: as expected, natural resource endowments matter for motivating agricultural and manufacturing FDI, and do not appear to be a stimulus for services FDI (Table 2, row 6, columns 2, 3, and 4). Although this result is not surprising, it claims it is a contribution to the empirical literature on FDI, since it has not been well documented yet. The impact of the *real exchange rate* is not well illustrated by this study.

In summary, consistent with the literature on FDI determinants, this study finds that both the democratic accountability and the investment profile of the economies of the Eastern European and Central Asia (EECA) region act as incentives for inward FDI to these countries. However, the impact of institutional quality, as measured by these two factors, tends to be of differing magnitudes and significance for different sectoral FDI inflows. Whereas there is strong evidence from both sets of models (with investment profile and democratic accountability) that agricultural FDI is heavily influenced by the state of institutions, the evidence on behalf of manufacturing FDI comes only from the second model. When the state of democracy is controlled for, the results show that the location decisions of both agricultural and manufacturing FDI are impacted by the quality of institutions. This effect is reflected at the total inward FDI level as well. In this respect, services FDI to the EECA region is different: it is unaffected by the quality of institutions. This result needs to be better understood and further researched.

CONCLUSION

This study focuses on the institutional determinants of inward FDI to the countries of Eastern Europe and Central Asia. The contribution of the study to the literature on FDI determinants is that it examines these institutional effects by sectors, as effects on agricultural, manufacturing, and services FDI. The study employs an empirical model, built of a comprehensive conceptual and theoretical framework. We extend the framework by including two less-studied and less-understood determinants: domestic human capital and domestic natural resource endowments. This Study get a rich and interesting set of results. It demonstrate that when controlling for the quality

of human capital, institutional quality matters more for attracting agricultural and manufacturing FDI to the EECA region than for attracting services FDI. A country's investment profile and state of democracy affect sectoral FDI in different ways: the investment profile has a significant positive effect on agricultural FDI, whereas the state of democratic accountability positively affects the inward FDI in both the agricultural and manufacturing sectors. Similarly, this Study find that being endowed with natural resources stimulates agricultural and manufacturing FDI, but not services FDI. These results are not completely intuitive. It may seem logical to expect that institutional environments play a bigger role in determination of FDI activities in the services sector rather than in primary and secondary sectors (Xu and Shenkar 2002). However, this assumption would be leaving two factors out. First, the industry of agriculture is heavily regulated and there is typically no good way to capture these regulatory environments with a comparative, cross-country dummy. Thus, investment climate, captured by *investment profile* partially reflects the regulatory environment in agriculture. Second, our expectation that the institutional environment should play a significant role in the determination of services FDI may also be erroneous. We find that in the region examined by this study, human capital—which may be indirectly related to institutions—rather than the quality of host-country institutions, is the significant determinant of services FDI. This finding supports the hypothesis that in the tertiary sector, FDI is motivated by educated, rather than cheap, labor. This is not the case with manufacturing or primary sector industries, where the evidence points to FDI being motivated by cheap labor.

The above results are new to the literature since FDI to the EECA region has not been documented at the sectoral level. More research is needed in the area of sectoral FDI determinants to highlight whether these findings hold for other regions and other institutional determinants.

NOTES

1. Exceptions include a few relatively new studies by Golub (2009) and Kolstad and Villanger (2008), which are reviewed in the next section.
2. There are many instances of discrimination against foreign investment in services, such as public utilities (electricity distribution, telecommunications), transportation (air and maritime transportation), financial services, and sometimes construction and wholesale/retail trade, that do not exist in other sectors. For examples, see Golub (2009).
3. For a complete derivation of the model, see appendix A in Waglé (2011).
4. According to the transaction cost theory of Williamson (1981), when it is difficult to appropriate the rents from firm-specific intangible assets through a contract with an external party, it may be optimal for the firm to internalize the market transaction, establishing its own production affiliate. The opposite situation is also possible: an acquisition may seek access to another firm's specific intangible assets (Blonigen 1997; Kogut and Chang 1991). Dunning (1993) outlines the following motives for FDI: access to resources, access to markets, efficiency gains, and acquisition of strategic assets.

5. Bevan and Estrin (2000) and Resmini (2000) approximate the size of the market by GDP and by population, respectively, and present evidence in support of the hypothesis that larger domestic markets attract more FDI.
6. Evidence in support of this argument can be found in Blonigen (1997) and Froot and Stein (1991). There is also literature on the effects of short-term movements in exchange rates, mostly testing American FDI determinations and finding similar results (Grubert and Mutti 1991; Klein and Rosengren 1994; Kogut and Chang 1996; Swenson (1994).
7. There is an early argument by Hartman (1984, 1985) that is contrary to this hypothesis and states that certain types of FDI may be insensitive to taxes.
8. A review of this literature can be found in De Mooij and Ederveen (2003).
9. There are some regional studies examining the effect of political stability on inward FDI. For example, Mutinelli and Piscitello (1997) illustrate a positive effect of political stability on inward FDI in Central and Eastern Europe, and Shiells (2003) finds similar results for CIS (Commonwealth of Independent States) countries. Demekas *et al.* (2007) also argue that a predictable policy environment, which promotes macroeconomic stability, ensures the rule of law and enforcement of contracts, minimizes distortions, supports competitiveness, and encourages private sector development can be expected to stimulate inward FDI.
10. See Barrell and Pain (1999) for the Western European context. Campos and Kinoshita (2003) provide evidence in support of this argument.
11. The empirical evidence in support of this argument has been mixed (Blonigen 1997; Grubert and Mutti 1991; Kogut and Chang 1996).
12. Manufacturing industries are those listed in to the International Standard Industrial Classification's (ISIC) revision 3, divisions 15–37. Services correspond to ISIC divisions 50–99. Services include value added in the following activities: wholesale and retail trade (including hotels and restaurants), transportation, and government, financial, professional, and personal services such as education, health care, and real estate. Also included are imputed bank service charges, import duties, and any statistical discrepancies noted by national compilers, as well as discrepancies arising from rescaling.
13. Estimates are based on sources and methods described in World Bank 2011.
14. The reason for not including corporate tax rates or any tax rates at all is that long time-series on tax rates are not available for the countries of the region examined.
15. By construction, the differenced error term is first-order serially correlated even if the original error term is not.
16. A potential problem of overidentification could arise with system GMM if there are too many instruments. Unfortunately, there is no right answer as to how many is “too many” (Roodman 2006; Rudd 2000). A rule recommended by Roodman is that instruments should not outnumber individuals (or countries). In this study, we experimented with both instrumental matrices with a maximum number and a minimum number of lags. The results were largely consistent. The results we present are based on the minimum optimum lags—an approach we selected to preserve the degrees of freedom.
17. In addition, we conduct a sensitivity analysis of the regressions, following the methodology of Levine and Renelt (1992). These results are available from the authors upon request.

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Local Community Perception towards Tourism Development in Upper Part of Beas and Parbari River: A Case Study

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ABSTRACT

Local communities' attitude and perception towards tourism development is an important indicator for sustainable tourism development. The involvement and participation of local community in the process of tourism is necessary to bring success in the development of tourism plan. Upper part of Beas and Parbati River is one of the most important tourist attraction in Himachal Pradesh. This paper deals with the perceptual or behavioural aspect of local community towards tourism development based on different social, economic, cultural and environment elements in upper part of Beas and Parbati River in Himachal Pradesh. For this analysis 165 local people sample from 11 tourist destination has been collected based on personal interview method and data further analyzed and interpreted based on appropriate statistical and graphical methodology.

Keywords: Local community Perception,, Tourist impact, Tourism development, Beas Circuit

INTRODUCTION

Tourism industry at present decade growing at rapid rate with the support of local community who are directly and indirectly related with tourism industry (Hanafiah, *et al.* 2013). The growth of tourism industry is crucial to the economic growth as well as related field such as transportation, leisure services and hospitality (Telfer, 2002). The growth of tourism transform the tourist destination. The development of tourism in planned way provides positive result in the destination region where as unplanned tourism development leads towards environmental degradation and socio-economic disparity among the local community. Local people or community is the main stakeholder of tourism development. So the study of local community behaviour towards tourism is needed for the development of tourism. Local community support is necessary to ensure the commercial, socio-cultural, physiological, political and

economic sustainability of the tourism industry (Hanafiah, *et al.* 2013). Upper Beas and Parbati river valley is one of the most important tourist destination of Himachal Pradesh. There are four main tourist circuit in Himachal Pradesh i.e. Beas Circuit, Sutlej Circuit, Dhauladhar Circuit and Tribal Circuit. The study area located in the northern part of Beas circuit characterized by Upper Beas and Parbati river valley. This region is one of the most popular destination of tourist and it attracts tourist from different parts of the country and from abroad. The existence of beautiful landscape, environment, society, culture, heritage, religion, tradition and different option for tourism opportunities and activities tourist arrived to visit Upper Beas and Parbati river valley. The existence of National Parks and Wildlife Sanctuary in the study area and also forest coverage provides rich biological resources and it attracts nature based tourist. Thus the existence tourist resource i.e. natural and cultural attractions in upper part of Beas and Parbati River creates huge potentiality for tourism development. Due to the high potentiality of tourism, tourist arrival increases at alarming rate in different destinations in study area and it affects the economy, society, culture and environment of local people. Tourism development and its activities has both positive and negative impact on local people. Local people is the center of tourism mechanism and perception study of local people is necessary for the development of tourism. The perceptual environment of local people varies place to place and which is determined by several socio-economic and cultural factors.

Objective

The major objective of this paper is to understand the local community perception or behaviour towards the tourism development in upper part of Beas and Parbati River, Himachal Pradesh, India based on different social, economic, cultural and environmental elements.

Study area

The upper part of Beas and Parbati river watershed has been taken into consideration for this study. Study area located in the central part of Himachal Pradesh in between 31°45'05"N to 32°24'57"N latitude and 76°56'14"E to 77°52'23"E longitude. In terms of its physiographic characteristics the study area broadly bounded by Dhauladhar range in the west, Bara Bhangal in north-west, Pirpanjal Range in the North & north east and Great Himalayan Range in the east and watershed of Sainj river in the south. The elevation ranges from 1035 meter near Largi in south west to 6362 meter in Great Himalayan range in the east. Beas River after originated from Beas Kund flows more or less southern direction upto Largi and Parbati River originated from Man Talai Glacier near Pin Parbati pass flows west and south-west direction and ultimately meets with Beas River near Bhuntar in Kullu district. Due to its natural beauty and cultural diversity, study area provides diverse opportunities to the tourist for different ecotourism activities and for this reasons study area has been taken into consideration for this article.

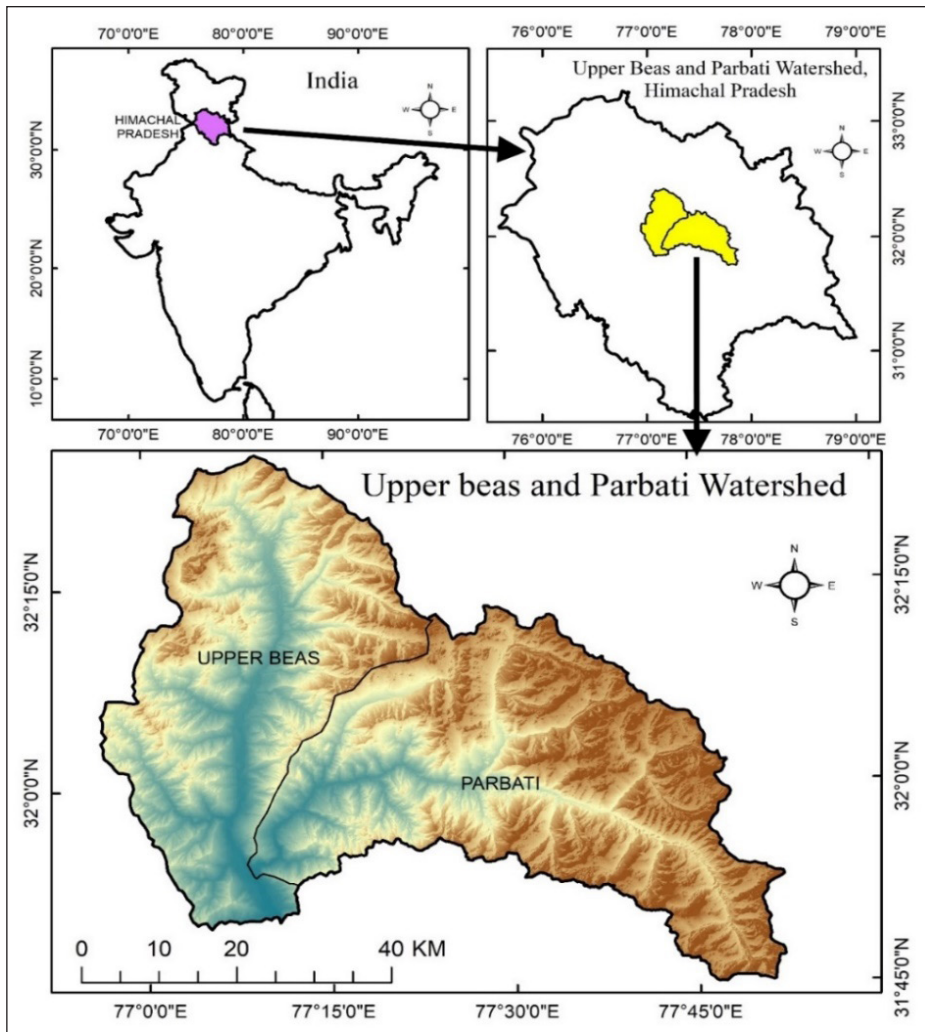


Fig. 1: Location of Study Area

MATERIALS AND METHODS

For this analysis the required data has been collected using questionnaire survey among the local people in some selected village in Upper Beas and Parbati river catchment. In order to collect data purposive sampling method has been applied and comprehensive field survey has been conducted with 165 villagers from selected eleven villages in study area. Based on questionnaire survey and personal interview information and data related to economy, society, culture and tourism and its impact has been collected. Based on statistical and graphical methodology collected data analyzed, represented and interpreted.

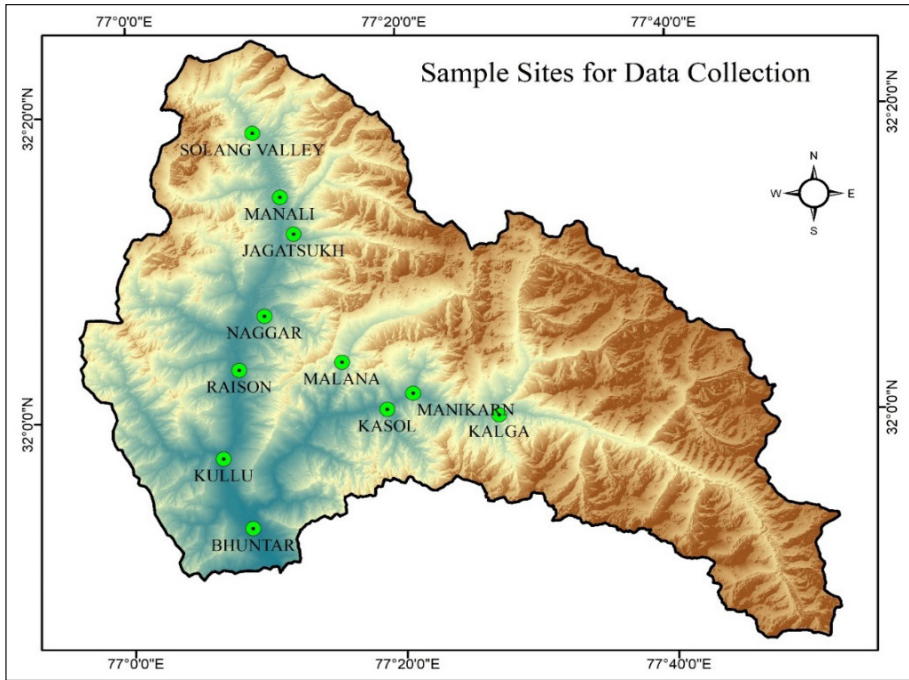


Fig. 2: Sample sites for local people

RESULTS AND DISCUSSION

The behavioral aspects of local people is also one of the most important aspects for the development of ecotourism in a region. The local community acceptance and participation is the key factor for ecotourism development. To understand the perception of local community towards tourism development several elements belongs to social, cultural, economic and environmental components i.e. age-sex structure, education, nature of employment, relation of job with tourism, family size, earning member, job at beginning, secondary employment, income level of local people, percentage income from tourism, percentage income from tourist as customer, knowledge about ecotourism, impact of tourism on environment and impact on lifestyle on local people etc. has been taken into consideration for study.

Age sex

Among the total sample survey of local people, 51.11% belongs to male category and remaining 43.89% sample are female (Fig. 3a). The age and sex of sample represented in age-sex structure diagram and this reveals the fact that the concentration of working age group both the case of male and female is higher. In study area the work participation rate in case of both male and female is more or less equal.

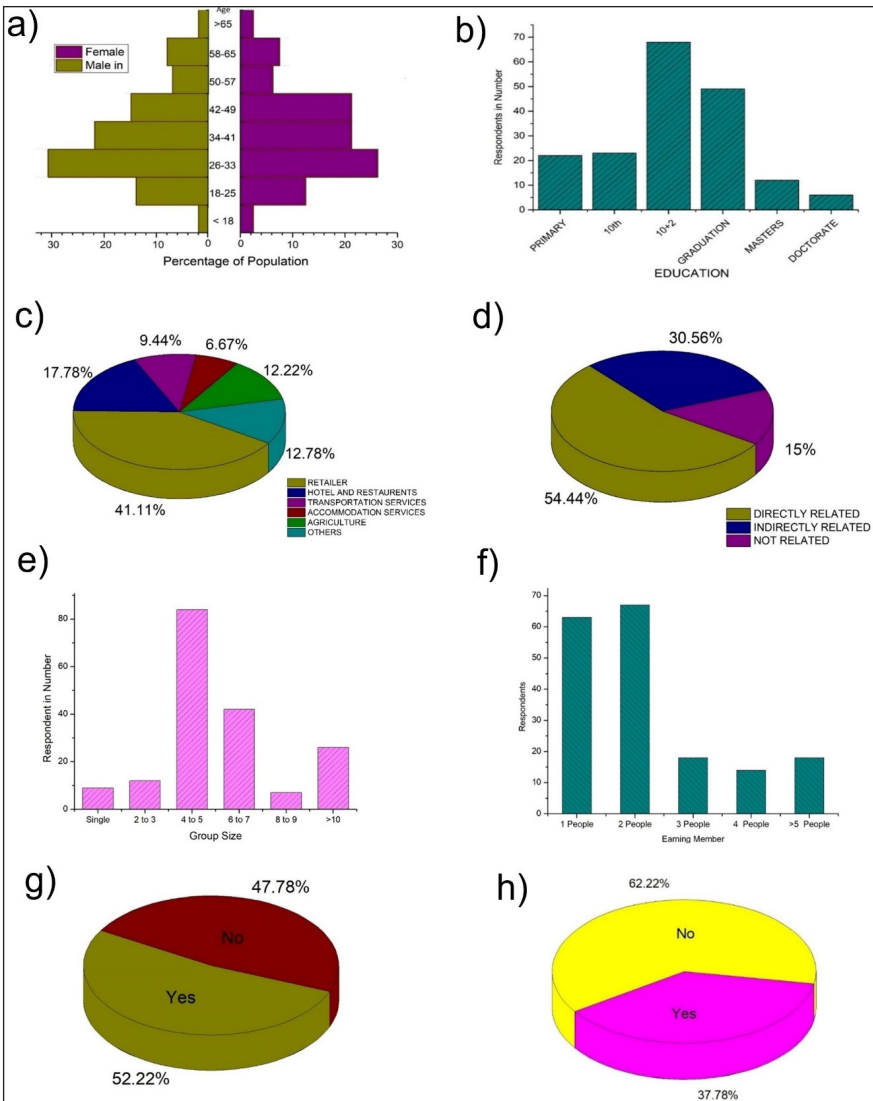


Fig. 3: (a) Age sex structure of local people, (b) Education status, (c) Nature of Employment, (d) Relation of job with tourism, (e) Family size, (f) Earning member, (g) Job from beginning, (h) Secondary employment

Education

Among the total respondent the majority of sample (38%) studied 10+2 or higher secondary and 27% sample are graduated. 13% of sample belongs to 10th standard education and 10% studied primary level of education, 7% are master degree holder and remaining only 3% of sample belongs to higher educated group in this region.

So in terms of education is concerned among the sample, education level is quite good condition in nature (Fig. 3b) and it helps to understand the tourism plan and environmental consciousness among the local community.

Occupation

The nature of occupation or job opportunities determine the status of tourism in the destination region and its acceptance among the local people. The economic opportunities and related tourism activities indicates the nature of tourism in destination. In study area, some people directly and some indirectly involved with tourism. Out of total respondent total sample percentage of occupation on each categories are as 41.11% are retailer, 17.78% related with job in hotel and restaurants, 9.44% belongs to transportation services, 6.67% belongs to accommodation services, 12.22% people dependent of agriculture and remaining 12.78% peoples earning depends on other occupation than above (Figure 3c). As per the survey among the local people, majority of families basically dependent on agriculture for their primary earning. The result reflects the majority of people dependent on tourism for their livelihood.

Dependency on Tourism

Not only the type of occupation but the dependency of occupation on tourism is a major concern for this analysis. Some jobs are directly dependent on tourism, some are indirectly and some jobs are not related to tourism. Among the total sample survey 54.44% sample's job directly depends on tourism, 30.56% job indirectly related and only 15% job not related to tourism (Fig. 3d). So from this this analysis it is clear that the majority of people basically directly or indirectly dependent on tourism for their livelihood. So the development of tourism and its increasing tourism activities should improve the economy status of local people in this region.

Family Size

The nature of family size and tourism indirectly related to each other. Large family size indicates higher dependency of secondary job opportunities and tourism solve this problem. The result of sample survey indicates that the concentration of large group families is more common than small families. Among the total sample 43% families have 4 to 5 member and 23% 6 to 7 member. The concentration of very large families such as greater than ten people in a family represents 14% and only 12% families have 3 persons (Fig. 3e).

Earning member

Dependency ratio widely reflects the status of families and where number of earning member within a families reflects economic and social status. Above diagram represents that single earning member within family is 35% whereas two earning member is

37%. So the 72% families having one to two earning member characterized by high dependency ratio and the large joint families characterized by large number of earning member where 10% families having three member, 8% families four earning member and 10 % families contain greater than five earning member (Fig. 3f).

Job from beginning

Among total sample 52% respondents attached with their present job at the beginning of earning opportunities but 48% respondent changes jobs due to economic needs and social condition (Fig. 3g).

Other Jobs

People of this region does not depends upon the single job for livelihood, they try to involved with several types of job throughout the year because maximum number of people directly or indirectly dependent on tourism and which is basically seasonal in nature. 62.22% people have single job but only 37.78% people have also secondary job opportunities (Fig. 3h). The local people who totally dependent on tourism or the tourist have other job during lean seasons of tourism when tourist arrived minimum number of tourist arrived in destination.

Income

Income is the primary element to judge the economic status of local people in study area. The income level of people varies depending upon the involvement of job opportunities in different sectors. The sample survey reflects the result that the concentration of low income group people is high and low number of people having high income group people found in this region. Among the total respondent 32% people belongs to 10 to 20 thousand income group, 24% respondent 20 to 30 thousand, 19% 5 to 10 thousand income group, 10% less than 5 thousand, 7% 30 to 60 thousand and only 7% people have income greater than 60 thousand in a month (Figure 4a). So this reflects that the economic stability among the people of this region is not strong and the development and the arrival of much more tourist should increase the economic stability among the people of the study area.

Income from tourist

The income from tourist varies depending upon the nature and characteristics of job opportunities of local people. To understand the nature of income from tourist of each individual questionnaire having percentage of income asked to the tourist. Out of total sample respondent 37% sample responds less than 20% income from tourist category, 14% belongs to 20% to 40% category, 11% belongs to 40% to 60% category, 5% is 60-80% category and 33% is greater than 80% category (Fig. 4b). The job opportunities of people such as agriculture, government sector job and executive jobs are basically fall

low income from tourist categories where as people engaged in transportation, hotel and restaurants and accommodation service sector and retailer of different products directly related to high percentage income group. But some local retailers fall under moderate percentage of income categories because their market dependent on both local people and tourist.

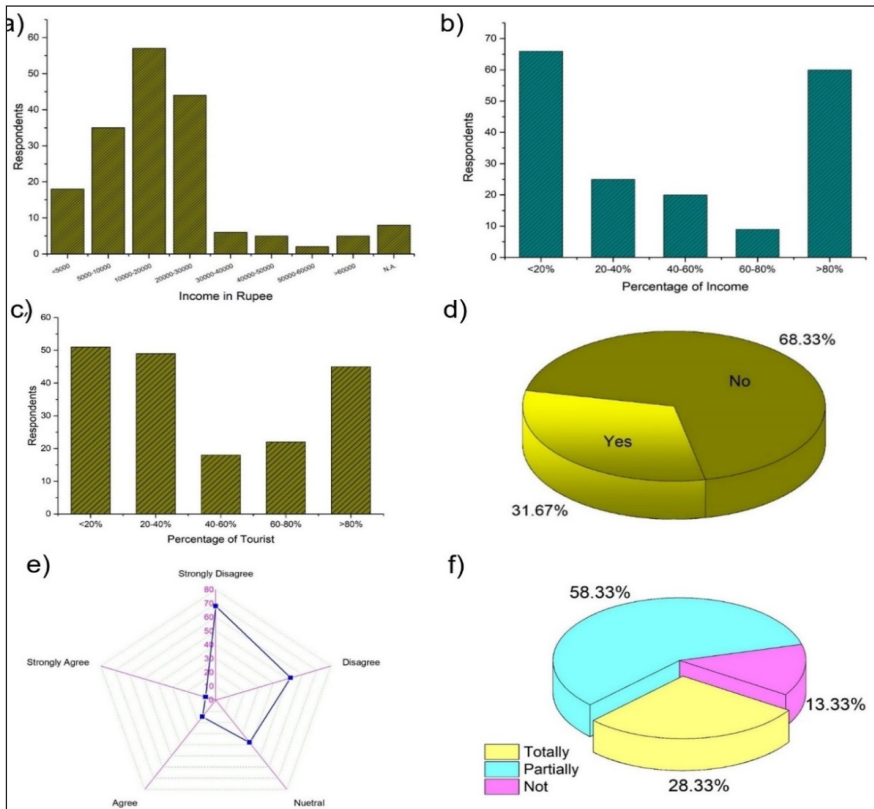


Fig. 4: (a) Income level of local people, (b) Percentage of Income from Tourism, (c) Percentage of tourist as customer, (d) Knowledge about Ecotourism, (e) Impact of tourism on environment, (f) impact of tourism on lifestyle of local people

Tourist out of total Customer

Tourist sometimes provides direct financial transaction to the local people and sometimes indirectly. So the local people directly benefited from tourist and sometimes not. To understand the tourist as customer contributes the economic transaction in study area. Among the total sample 30% respondent tourist as greater than 80% customer out of total customer, 9% respondent reflects 60% to 80% customer, 7% respondent 40% to 60% tourist, 26% respondent 20% to 40% tourist and 28% respondent believes less than 20% tourist as customer among total customer (Fig. 4c).

Knowledge about Ecotourism

To understand the knowledge about ecotourism among the local people questionnaire asked and based on their response regarding ecotourism the majority of people that is 68.33% people does not have idea about ecotourism and 31.67% people know about ecotourism (Fig. 4d). The understanding of the concept of ecotourism reflects the environmental education and awareness among the local people. The concept has to be spread among the local people in tourist destination and it helps to increase environmental awareness among the local people. After getting information about ecotourism 100% of people want to accept ecotourism in their region to minimize environmental impact and increase economic opportunities.

Impact of tourism on Environment

Tourism has both positive and negative impact on the economy, society, culture and environment. To understand the perception of local people regarding the environmental degradation through tourism, sample survey has been made and among the total respondent 38% believes tourism has very low environmental impact on their environment, 29% believes low impact, 21% moderate, 8% high and 4% believes very high impact on their environment (Fig. 4e). The sample of developed region basically represents high environmental impact whereas the region having low development status reflects less impact.

Impact on Lifestyle

Not only tourism changes the environmental system but also changes the culture of the local people. Local people believes that their lifestyle changes totally due to tourism development (28.33%) and majority of people basically 58.33% respondent believes their life style changes partially due to tourism and remaining 13.33% people responses no changes of lifestyle due to tourism or the tourist arrival in their region (Fig. 4f).

Problems faced by Local People

The problems faced by the local people in the study area such as abundant waste generation and its improper management, bad road network in remote part of the district, water scarcity, overcrowd during peak tourist seasons, lack of open toilet facilities to local people and also tourist, inaccessibility of electricity in the remote villages, cultural degradation among the local people due to tourist arrival, lack of healthcare facilities, changes of lifestyle, alcoholism among the young generation, adverse impact of hydro Electric project and misbehavior to tourist by local people etc.

CONCLUSION

The study examined the local community perceptions of the consequences of tourism on Upper Beas and Parbati River, Himachal Pradesh, India. The result indicates that the

development of tourism has positive impacts on the local communities' economy and also boost socio-cultural characteristics in the destination. The perceptual environment of local community is the primary element for the development of different tourism management plan in the destinations. In depth understanding of human nature is an essential to the planning, design and operational analysis of tourism. The involvement of local community in the process of tourism and also in the process of the development of planning strategies helps to bring out the fruitful result of tourism. The development of non-governmental organizations and its involvement in the planning process is necessary. Not only the development of planning strategies is important but the implementation of the strategies into ground level with the participation of local people, stakeholder, government and non-governmental organizations is necessary for the development of tourism in study area. For the development of local community, government support is needed for continuously provide the opportunity and space for the locals to getting engaged with tourism sector.

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Farmer's Prosperity Through Adoption of System of Rice Intensification in Tripura

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ABSTRACT

Maximum yield of rice is determined by the combination of natural resources, genes, weather and management practices followed. The system of rice intensification (SRI) is an unconventional and modified management system developed in Madagascar, where it was reported to increase the yield of rice to 'fantastic' levels. SRI is just altering the management practices to make more productive phenotype from the same genotype of rice plant. Artificial environment is created for growth and development of rice plant for exploitation of its full genetic potential, land and water resources. SRI provides ample scope for enhancing productivity and breaking the yield barrier of rice in the small holder's fields. SRI method of paddy cultivation is having several advantages over the traditional system since the seed and water requirement and incidence of pests and diseases is lower than the traditional system and yield is also higher. Lot of field experiments was conducted by the KVK, Khowai in collaboration with Department of Agriculture, Govt of Tripura it was observed that farmers were benefitted with high net return and B:C ratio due to adoption of SRI method of rice cultivation over conventional method of rice cultivation.

Keywords: Rice, system of rice intensification, conventional method, yield advantages

INTRODUCTION

Indian being the important consumer of rice, the per capita availability of food (rice) had reached an all-time low of 64 kg per annum in 2008-09, which is 20 kg less than the minimum annual requirement of a normal person (NSSO survey). Therefore, to meet the nutritional needs of the people, the food production has to more than double in next 3-4 decades. But the biotic (pest, diseases and genetic decline) and abiotic stress including problematic weather aberrations due to climate change such as flooding and drought, temperature fall, frost, submergence and cyclone etc., put tremendous strains on food production system adding year to year fluctuation. More importantly, the

worst is that the sector loses around 40% of crop production annually due to system inefficiency and wastage in addition loss due to pests, diseases and weeds infestation.

In view of static area planted under food crops reinforced by population competition and spate of urbanisation, the onus lies on productivity enhancement that ensure food security at various level (global, national and household level). The smallholders in rainfed area are vulnerable to low level productivity trap and violent price volatility, where the most hungry people live. The low productivity and large regional differences in yield implies ample scope to exploit the vast untapped potentiality to increase production and bridge the yield gaps.

System of Rice Intensification (SRI) provides ample scope for enhancing productivity and breaking the yield barrier in the small holder's fields. SRI method of paddy cultivation is having several advantages over the traditional system since the seed and water requirement and incidence of pests and diseases is lower than the traditional system and yield is also higher (Biswas and Nath, 2013). The SRI is not a new method or technology. It is just altering the management practices to make more productive phenotype from the same genotype of rice plant. Artificial environment is created for growth and development of rice plant for exploitation of its full genetic potential, land and water resources.

SRI is based on the following principles:

- ❑ Young seedlings between 8-12 days old (2-3 leaf stage) are transplanted to preserve potential for tillering and rooting ability;
- ❑ Careful planting of single seedlings rather than in clumps that are often plunged in the soil. Transplanting of tender seedlings need care to minimize root trauma.
- ❑ Wider spacing at 25 cm × 25 cm in square planting rather than in rows which can also be done with the help of rope by marking.
- ❑ Use of cono-weeder/rotary hoe/power weeder to aerate the soil as well as controlling weeds - the first advantage of using the weeder is the control of weeds and also adding organic matter to the soil. This gives the benefits of cultivating a green manure crop. Further, the soil gets aerated and the roots are exposed to air. This results in profuse growth of diverse soil micro organisms which make nutrients available to the plant.
- ❑ Alternate wetting and dry method rather than continuous flooding in the field - as the soil is not flooded, the roots of the paddy plants grow healthy, deeply in all directions. The root growth is extensive also due to the wide spacing. As the field is intermittently irrigated and dried, the micro organisms grow well which make nutrients available to the plants. This method also helps in better growth and spread of roots.
- ❑ Use of organic manure or vermicompost/FYM.

History of SRI

The SRI methodology was synthesized in the early 1980s by Fr. Henri de Laulanié, S.J., who came to Madagascar from France in 1961 and spent the next (and last) 34 years of his life working with Malagasy farmers to improve their agricultural systems, and particularly their rice production, since rice is the staple food in Madagascar. Rice provides more than half the daily calories consumed in Madagascar, a sign of the cultural and historic significance of rice to Malagasies, but also an indication of their poverty. Fr. Laulanié wanted to help farmers improve their productivity without being dependent on external inputs because Malagasy households had so little purchasing power.

Fr. de Laulanié (right) established an agricultural school in Antsirabe in 1981 to help rural youths gain an education that was relevant to their vocations and family needs. Though SRI was “discovered” in 1983, benefiting from some serendipity, it took some years to gain confidence that these methods could consistently raise production so substantially. In 1990, together with a number of Malagasy colleagues, Fr. Laulanié established an indigenous non-governmental organization (NGO), named Association Tefy Saina, to work with farmers, other NGOs, and agricultural professionals to improve rural production and livelihoods in Madagascar. In 1994, Tefy Saina began working with the Cornell International Institute for Food, Agriculture and Development (CIIFAD) based in Ithaca, NY, to help farmers living in the peripheral zone around Ranomafana National Park to find alternatives to their slash-and-burn agriculture. So long as paddy yields, even with irrigation, averaged only 2 tons/hectare, rural households would need to continue growing upland rice and reducing Madagascar’s precious but endangered rain forest ecosystems. These could not last long unless paddy yields were raised on the limited irrigated lowland area. Farmers using SRI methods could achieve average yield of 8 tons/hectare after these methods were introduced around Ranomafana.

Methods of SRI

The System of Rice Intensification is not a new method or technology. It can be accomplished by the following methods:

1. Raising nursery

(a) Selection of site: In SRI method, almost care should be taken in the preparation of nursery bed, as 8-12 days old seedlings and in some places 14-15 days old seedlings (2-3 leaf stage) are transplanted. The nursery bed should be preferably prepared in the centre / corner of the plot for quick/ efficient transplanting.

(b) Size of bed: For one acre transplantation, the nursery bed can be raised in 40 m² plot. Depending upon the situation, two beds can be raised each measuring 20 m² per 1 kg seed.

A bed with a width of 125 cm or 4 feet is ideal. Length of the bed can be decided by the farmers depending on the ground situation. According to one's convenience either a single bed or several small beds (4 beds measuring 4 × 28 feet or 1.25 × 8 m each, Fig. 1) can be prepared. As the roots of 8-10 days old seedlings grow up to 3 inches (7.5 cm), it is necessary to prepare raised beds of 5-6 inches (12.5-15 cm). To drain excess water, appropriate channels should be provided on all sides by making drainage cum irrigation channels (0.5-1 feet width). To prevent soil erosion, the bed on all side should be made secure with wooden reapers/ planks or paddy straw etc.

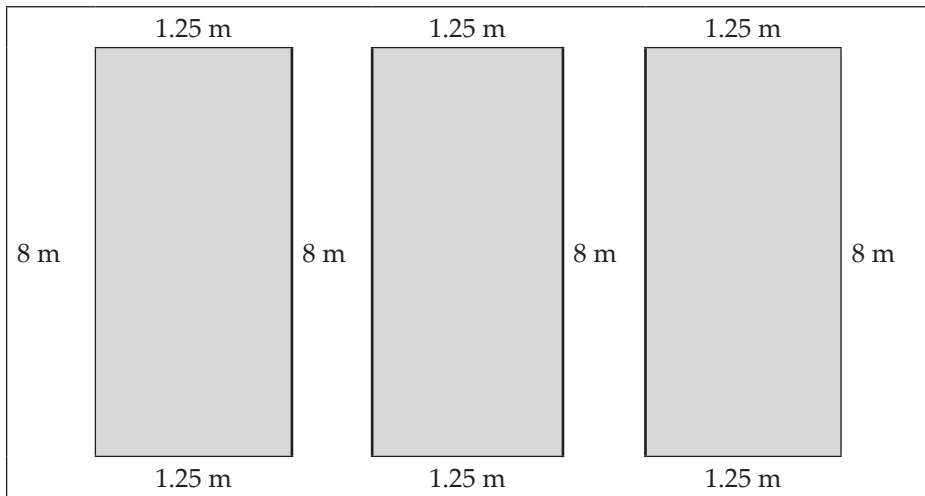


Fig. 1: Layout of nursery beds for SRI

(c) Bed preparation: Nursery bed is prepared with application of farm yard manures (FYM) and soil in four alternating layers. 1st layer: 1 inch (2.54 cm) thick well decomposed FYM, 2nd layer: 1.5 inch (3.75cm) soil, 3rd layer: 1 inch (2.54 cm) thick well decomposed FYM, 4th layer: 2.5 inch (6.3 cm) soil. All these layers should be mixed well as it will helps in easy penetration of roots. Besides compost or vermin compost can also be used and spread it over all the bed in 3-5 cm layer.

(d) Seed rate: Usually 2 kg of seeds (5 kg/ ha) is required to transplant in one acre of land. Seed should be thinly spread to avoid crowding of seedlings. Care should be taken that no two seeds should touch each other.

(e) Seed Treatment: Healthy and pure seeds are to be used. Then these seeds should be soaked for 12 hours in water. Then drain the water and treat the seed with bavistin (2 gm/ kg seed) or Trychoderma (3 gm/ kg seed) or streptocyclin (1 gm/ kg of seeds). Thereafter transfer the treated seeds to a water soaked gunny bag. Leave it for 24 hours. Sprouted seeds are taken to the nursery for sowing. To ensure uniform broadcasting, divide the seed into four part and broadcast thinly over the bed (each part at a time). It is better to broadcast seeds in the evening.

(f) Mulching: Cover the bed with paddy straw to cover from direct exposure to the sun and also to ensure protection from birds. Depending upon recruitment, apply water with rose cans twice daily. Care should be taken to see that the seeds do not come out while watering. Remove the straw once the seeds germinate.

2. Preparation of main field

Land selected for SRI should be well levelled and should not have water logging condition. When the plot is irrigated the water should spread uniformly across the field. Similarly, whenever needed there should be previous to drain the excess rain water. Farmers must have their own irrigation resources so that they can provide irrigation whenever it is needed. The main field is prepared and levelled with little standing water a day before planting for grid marking. Provision should be made for 30 cm wide channels at 2 meters interval. Perfect levelling is the pre-requisite for proper water management and good crop stand.

3. Method of Transplanting

The field should be well puddled and levelled. After levelling the field, a marker can be used to lay out the plot into wider spacing i.e., 25 cm × 25 cm row to row and plant to plant. This can also be done with the help of rope by marking.

Young rice seedlings 8 to 12 days old and in some places 14-15 days old seedlings (2-3 leaf stage) is considered to be ideal for transplanting as compared to 25 – 30 days old seedlings in traditional method of rice cultivation. The seedlings with 2-3 leaves stage have great potential for profuse tillering and root development. It results to achieve maximum yield potential of varieties / hybrids.

Care should be taken to prevent any harm to seedlings while pulling them from nursery or at the time of transplanting. A metal sheet is inserted 4-5 inches below the seedbed and seedlings scooped along with soil without any disturbance to their roots. Transplanting of tender seedlings need care to minimize root trauma. The farmers and farm labourers need to be educated on this aspect. Young seedlings are planted shallow horizontally thus establish quickly. Seedlings are transplanted with the help of index finger and thumb and by gently placing them at the intersection of marking. Light irrigation should be given on the next day of the transplanting.

4. Nutrient Management

Organic manures or vermicompost are recommended in SRI cultivation as they give better response and improve soil health. Application of FYM / compost (10-12 t/ ha) before ploughing and incorporation of in situ grown 45-60 days old green manures crops are beneficial. Though complete organic manuring is recommended for SRI, in case of short supply of organics, fertilizer supplementation may be adopted for

better yields. Apply and incorporate 50% of recommended fertilizers (NPK) through in-organics i.e., 50:30:20 kg NPK in *kharif* and 60:30:20 kg NPK in *rabi* depending on soil test values at the time of preparation of the field.

Apply second dose (25 per cent) of N at the time of 2nd weeding (20 DAT) and final dose of 25 per cent N and remaining 25 per cent K a week before panicle initiation stage. Need based N can be applied with the use of Leaf Colour Chart to enhance the N use efficiency.

5. Water management

SRI method does not require continuous flooding. Irrigation is given to maintain soil moisture near saturation initially and water is let in when surface soil develops hairline cracks. The irrigation intervals, however, vary with soil texture. Soils having low water holding capacity require frequent irrigation.

As the soil is not flooded, the roots of the paddy plants grow healthy, deeply in all directions. The root growth is extensive also due to the wide spacing. As the field is intermittently irrigated and dried, the micro organisms grow well which make nutrients available to the plants. This method also helps in better growth and spread of roots.

The field should be irrigated again when the soil develops hair line cracks. Depending upon the soil and the environment conditions, the frequency of irrigation should be decided. At the time of weeding operation to avoid shoulder pain, the field should be irrigated to have 2-3 cm of water. After completion of weeding the water should not be left out of the field. After the panicle initiation stage until maturity, one inch of water should be maintained in the field until maturity. The water can be drained after 70 per cent of the grains in the panicle get hardened.

6. Weed Management

As there is no standing water in SRI method, weeds would be more. There are several advantages of turning the weeds into the soil by using an implement called 'weeder'. Use the weeder on the 10th and 20th day after transplanting. The weeding problem is addressed to a large extent with this effort.

Alternate wetting and drying in SRI results in excessive weed growth which if unchecked in time may cause immense loss in yield. In SRI, the weeds are incorporated by operating cono weeder between rows at the right time, which also supply nutrients to the crop as green manures. First weeding is to be done 10-12 days after planting. Further weeding may be undertaken depending on the necessity at 10-15 days interval until crop reaches panicle stage. For smother and easy operation of cono weeder, it is advisable to coincide the weeding with irrigation. Rotary weeding may be supplemented with 1 or 2 hand weedings to remove the weeds growing near the hills which might have escaped during rotary weeding. The first advantage of using the

weeder is the control of weeds and also adding organic matter to the soil. This gives the benefits of cultivating a green manure crop. Further, the soil gets aerated and the roots are exposed to air. This results in profuse growth of diverse soil micro organisms which make nutrients available to the plant.

SRI in Tripura

Tripura is a state in North-East India which borders Bangladesh, Mizoram and Assam. It is surrounded by Bangladesh on its North, South and West. It shares a 53 km border with Assam and 109 km border with Mizoram. Tripura is a land locked state. Rice is the major staple food of Tripura with 75 percent of cropped area devoted to production of rice. In terms of production, it ranks next to Assam in north eastern states (Das DK *et al.*, 2016). Department of Agriculture, Govt of Tripura and Krishi Vigyan Kendra are trying their level best to popularize SRI in Tripura. SRI method of cultivation is having several advantages over the traditional system since the seed and water requirement and incidences of pests and diseases are lower than the traditional system. Despite of several advantages the farmers are facing several problems like timely availability of skilled labour, high cost of labour due to which the practice is not getting enough popularity (Nath *et al.* 2017)

Interventions of KVK, Khowai in popularizing SRI

North Pulipur is a tribal village of Khowai district of Tripura. People of this village are mostly Schedule tribe and mainly depend on agriculture. Paddy is the major crop of the village and they used to grow paddy during Kharif season. Earlier, they were growing paddy by using traditional system of cultivation like irregular spacing, no seed treatment, continuous flooding, seedling of older age, use of more than 3 numbers seedling during transplanting, no plant protection measures etc. With the technological and critical input support of KVK, Khowai in collaboration with Department of Agriculture, Govt of Tripura and with financial assistance from CRIDA, Hyderabad under National innovations on Climate resilient Agriculture during the year 2016-17 a total of 30 ha area covered with 59 numbers of farmers.

All the mentioned principals for SRI was being followed and critical input support was given with the help of Department of Agriculture, Govt of Tripura. Regular field visits were also made by the Subject Matter Specialists of different discipline.

Impact of SRI

Before KVK intervention the average net income from paddy was only ₹ 0.12 lakh/ha with BC ratio around 1.25 by cultivating paddy under conventional management with long duration variety. After KVK intervention for the same with a huge success of the paddy production took place. On an average they got a yield of 7.5 t/ha. They earned a gross return of around ₹ 0.90 lakh/ha by selling the produce in local market

with average price of ₹ 12.00/kg. They have spent around ₹ 0.51 lakh/ha as total cost of production including land preparation, input cost, labour etc. So, their net return from paddy cultivation with the adoption of KVK guidance was ₹ 0.39 lakh/ha and BC ratio for the same was around 1.76. They are now so happy with SRI cultivation that they have purchased a land on lease by investing their income of paddy. Moreover, they are really acting as motivator for several other farmers to adopt the SRI cultivation method and because of that nearby 2 villages also adopted SRI cultivation in the *kharif* season of 2017-18.

Extent of adoption

At North Pulinpur ADC Village, with the technological support of KVK Khowai a total of 120 ha areas are already covered under SRI technology.

Constraints of SRI

Since SRI technology requires more labour per hectare than traditional methods of growing rice therefore the farmers have been showing less interest in adopting this technology though it is having great potentiality (Anonymus, 2007). Johnson and Vijayaragavan (2011) found that important reasons for non adoption of SRI practices were risk involved in adopting new practices, shortage of agricultural labour and psychological fear of loss. Biswas and Nath (2013) observed that timely weed management of the crop, intensive care required at seedling stage and more labour needed at the time of cultivation practices were the constrains perceived by more than 85 percent farmers in the large scale adoption of SRI technology. Karki (2002) also reported that a downfall of SRI adoption was found which was mainly attributed to the declining institutional support.

Table 1: Details of Technology

Sl. No.	Item	Description
1	Name of the intervention/ technology	Cluster demonstration of SRI with Medium Duration HYV var. Gomoti
2	Objective of the study	To grow paddy with less water with minimum input
3	Problem diagnosis	More water is required in conventional paddy cultivation
4	Whether rainfed or irrigated situation?	Rainfed situation
5	Describe farmers practice	Conventional paddy cultivation (comparatively long duration variety- Ranjit and MTU 7029) that requires more water
6	Describe improved technology	Medium duration paddy (Variety) with system of Rice Intensification
7	Area covered for each demonstration (ha)	Area: 30 ha.
8	No. of farmers covered	No. of farmers: 59

Table 2: Cluster wise Result of the Crop Cutting Experiment with Economics:

Farmer Name	Comparison of Treatments	Crop	Variety	Date of sowing	Date of Harvest	Seed yield (kg/ha)**	Gross cost (₹/ha)	Gross returns (₹/ha)	Net returns (₹/ha)	Benefit cost ratio
Mr. Charan Debbarma and his Group	SRI	Paddy	Gomati	15 th to 20 th June, 2016	5 th to 10 th November, 2016	7800 kg/ha	51000.00	93600.00	42600.00	1.83
Mr. Mantu Debbarma and his group	Farmers practice	Paddy	MTU 7029	15 th to 20 th June, 2016	15 th to 20 th November, 2016	5100Kg/ha	46000.00	61200.00	15200.00	1.33
Mr. Chittaranjan Debbarma and his group	SRI	Paddy	Gomati	15 th to 20 th June 2016	5 th to 10 th November, 2016	7400 Kg/Ha	51000.00	88800.00	37800.00	1.74
Mr. Ajit Kumar	Farmers practice	Paddy	MTU 7029	15 th to 20 th June 2016	15 th to 20 th November, 2016	4900 Kg/ha	46000.00	58800.00	12800.00	1.27
Mr. Debbarma	SRI	Paddy	Gomati	15 th to 20 th June 2016	5 th to 10 th November, 2016	7100 Kg/Ha	51000.00	85200.00	34200.00	1.67
And his group	Farmers practice	Paddy	MTU 7029	15 th to 20 th June 2016	15 th to 20 th November, 2016	4700 Kg/Ha	46000.00	56400.00	10400.00	1.22
Mr. Rama Debbarma	SRI	Paddy	Gomati	15 th to 20 th June 2016	5 th to 10 th November, 2016	7600 Kg/Ha	51000.00	91200.00	40200.00	1.78
And his group	Farmers practice	Paddy	MTU 7029	15 th to 20 th June 2016	15 th to 20 th November, 2016	4800 Kg/Ha	46000.00	57600.00	11600.00	1.25
Mr. Ajit Kumar	SRI	Paddy	Gomati	15 th to 20 th June 2016	5 th to 10 th November, 2016	7600 Kg/Ha	51000.00	91200.00	40200.00	1.78
Mr. Debbarma	Farmers practice	Paddy	MTU 7029	15 th to 20 th June 2016	15 th to 20 th November, 2016	4500 Kg/Ha	46000.00	54000.00	8000.00	1.17
And his group	Farmers practice	Paddy	MTU 7029	15 th to 20 th June 2016	15 th to 20 th November, 2016					



Fig. 2: Field experiment conducted by KVK Khowai, Tripura

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Women Entrepreneurs, Micro Credit and Rural Economy

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ABSTRACT

The recent trend in regional development of our country is balancing the contribution of women particularly the rural women. They are now being mobilized through group based thrift and credit activities. Time to time they are taking loan from the group fund generated together and starting up small business activities for self-employment. Government is also encouraging them by giving subsidised benefit so that the women run enterprises leading to acceleration of economic growth. Report (GoI-2016) shows that the total number of establishments owned by women entrepreneurs was 8,050,819 2013. Out of those, about 65.12% of the total establishments were located in rural areas. Further, about 83.19% operated without hired workers and 16.81% operated with hired workers. The percentage of women-owned establishments without hired workers in rural areas was 86.85%. The growth of women entrepreneurship in India especially in rural areas is quite remarkable. The present paper is prepared with a view to highlight the growing trend of women entrepreneurship development through micro credit supports. Attempt has also been made to analyse the contributory role of women entrepreneurship to rural economy in our country. There are four separate segments of this paper which include- concept of entrepreneur and concept of micro credit, entrepreneurship and micro credit, entrepreneurship and rural economy and growing opportunities of entrepreneurship in India.

Keywords: Mobilized, group fund, self-employment, subsidised, rural areas, women entrepreneurship development

BACKGROUND

Since the independence, Government of India has been making concerted efforts in providing micro-finance to the rural poor through cooperative institutions. However, the fact is that cooperative institutes could not achieve remarkable targets (Murlidhar & Lokhande, 2009). Considering the emerging need of women's participation in the

process of development thrust has since been given to organise poor women into self help groups. The Govt. of India nationalized the commercial banks in 1969, to achieve socio-economic objectives and making formal banking sectors accessible to poor people particularly to women. The regional rural banks were established in 1975 aiming to cover poorest of the poor in rural areas. Social banking was the catchword during 1989-90. It was made mandatory to all the nationalized banks, cooperatives and RRBs to provide credit to priority sector. These banks were supporting for poverty alleviation programme. Micro finance programme intends to arrest the most burning issue i.e. poverty and unemployment which were main hurdles in the process of development. This backdrop encouraged women to join in SHGs/MFIs so as to start enterprise for their self reliance.

Objectives

The present paper is prepared with the objective mainly to see the trend of women entrepreneurship development through micro credit support as well as to analyse the contribution of entrepreneurship in different domain of rural economy.

Methodology

The paper has been prepared on the basis of data available from secondary sources including reports of Governments, 6th Economic Census of India, research papers of national and international repute and research articles published in the journals and edited volumes of academic institutions. In few cases chart and diagrams have been used to represent figures related to the issues.

Concept of Entrepreneur

In present day context, the term 'entrepreneur' has been widely recognised at the global economy. The national plan and policy drafted by government of India has been giving thrust on entrepreneurship development for self employment through skill and capacity building of the youths including women. Scholars and academicians have defined the term in different point of views. The conceptual aspects of entrepreneurs and issues on women entrepreneurship development have considered an important domain for academic research. The term entrepreneur has been derived from the French word-entrepreneur, means to undertake. The term entrepreneur may be defined as — an entrepreneur is a person who combines capital and labour for production (Ansari 2016). Entrepreneur is the agent who buys means of production at certain prices, in order to sell at prices that are certain at the moment at which he/she commits him/her self to his cost. According to P.F. Drucker (Sharma-2013) 'entrepreneur is one who always, searches for change, responds to it, exploits it as an opportunity'. Generally entrepreneur is described as a person who assembles the various means of production and mobilise them, renders them operative and useful. He/she is a promoter or

initiator of production. Woman entrepreneur, in other way, is a woman who starts and owns an enterprise by investing at least 51% in an enterprise (Sharma-2013). The entrepreneur as considered in an advanced economy is an individual who introduces something new in the area of economy- an approach of production in the branch of manufacturing, trading and service, about which consumers are not yet familiar, a new source of raw material or of new markets and the like According to economists, the entrepreneur as an individual who forms an organization for commercial purpose. He / She is proprietary capitalist, a supplier of capital and at the same time a manager who intervenes between the labour and the consumer (Tripathi & Jain 2011). In the context of micro credit approach, the entrepreneur is a unit of organization relating to service or business enterprises managed by one or more women entrepreneurs having individually or jointly share capital of not less than 51% as shareholders of the private company, limited company or members of Co-operative societies.

Concept of Micro Credit

In the present day context, micro credit in India has got its new direction with the introduction of Self-Help Groups (SHGs). It has become an effective instrument for financial intermediation. Micro credit institutes offer poor people access to basic financial services such as loans, savings, money transfer services and micro insurance. It is a concept evolved from Grameen Bank of Bangladesh, founded in 1983 by Prof. Mohammed Yunus (Basu-2001). In India, the concept of Self-Help Group was initiated by National Bank of Agriculture and Rural Development (RBI) in the year 1986-87. However, substantial step was taken in India during 1992 by linking Self Help Groups (SHGs) with Banks as per directives issued by Reserve Bank of India. Government of India has been making concerted efforts in providing micro-finance to the rural poor through cooperative institutions as well as through self help groups. However, cooperative institutes could not achieve remarkable targets (Dr. Murlidhar & A. Lokhande, 2009). in order to achieve socio-economic development of the rural poor and to make formal banking sectors accessible to poor people, Government has adopted various measures through its nationalized commercial banks and regional rural banks. The Progress can be found from the following (Table 1).

Table 1: Progress of SHGs-Bank linkage programmes in India

<i>Year</i>	<i>No. of SHGs (Cumulative)</i>	<i>Loan disbursed (₹ in crore)</i>
2014-15	76,97,000	27582.00
2015-16	79,03,000	37286.00
2016-17	85,77,000	38781.00
2017-18	87,44,000	47186.00

Source: www.nabard.org

It is fact that the progress of SHG based women development has become a primary concern not only in India but also at the global context. The progress economic

empowerment through micro credit support in our country has received global attention. In a report of World Bank it has clearly been pointed out that with a population of more than 1.2 billion, India is the world's largest democracy. Over the past decade, the country's integration into the global economy has been accompanied by economic growth. It has now been emerged as a global player' (World Bank -2017). The fact is that microfinance is mostly concentrated among poor women. Study has captured the picture and claimed that 85% of the client of microfinance is from women (Daley-Harris S. 2007).

ENTREPRENEURSHIP AND MICRO CREDIT

Scholars (Rajasekaran and Sindhu 2013) pointed out that woman entrepreneurship has been recognized as a source of economic growth as they create new jobs for themselves and others and also provide society with different solutions to manage the organization and business. Women's entrepreneurship contributes to the economic well-being of the family, communities and also addresses unemployment and poverty. The growth of Self-Help Groups (SHGs) is an evidence of the fact that women are coming out of their domestic sphere and maintaining their livelihood. Keeping this in mind the researcher made analytical study which clearly shows that the contribution of women entrepreneurs' to the society is commendable. Rapid progress in SHG formation has now turned into an empowerment movement among women across the country. There is a felt need of microfinance to overcome exploitation, create confidence for economic self reliance of the rural poor, particularly among rural women. Study shows that the SHG concept in the rural tourism has facilitated interactive experience of rural life in India to the paying visitor and at the same time, it is a direct income to the local communities. This income route is supposed to reach the most disadvantaged rural sector directly – for betterment of their lives; as well as to strengthen their capacity building and infrastructure development (Kumari 2014).

Table 2: Microfinance in West Bengal – a glimpse

<i>Particulars</i>	<i>2010-11</i>	<i>2009-10</i>
Total microfinance clients (in millions)	10.85	10.09
Number of MFI clients (in millions)	03.39	03.51
Number of SHG clients (in millions)	07.46	06.58
MFI loans (₹ Billion)	22.71	21.06
SHG loan portfolio (₹ Billion)	16.25	13.26
Total microfinance loan (₹)	38.96	34.32

Source: *Access to credit in West Bengal: post micro finance crisis, (Roy et al. 2012)*

The MFIs have made shift in its approach beyond micro credit to micro enterprise loans, purchasing products to insurance, housing, infrastructure and property leasing loans. There is increasing demand for purchase of land, developing infrastructure and loan for shelter those which are usually denied by the formal commercial sectors. The

micro finance sector thus, creating remarkable contribution to commercial industry so as to economic growth of the country (George -2014). The role of MFI in India within recent past has been put down in the Table 2.

The flow of micro credit in West Bengal is presented in the Table 2 which indicates that microfinance has two types, such as SHGs (self-help groups) and MFIs (micro finance institutes). Micro-credit is channelised through SHGs as well as through MFIs. Number of clients with SHGs (7.46 million) is nearly double than MFIs (3.39 million) in the year 2010-11. There is a critical gap between loans given through SHGs (₹ 16.25 billion) and through MFIs (₹ 22.71 billion) during 2010-11. In our neighbouring country like Srilanka, the progress of microfinance has been studied such as in Jaffna, it shows that the variation in women empowerment through microfinance activities has statistical significance. Application of tool like ANOVA is made to test significance about impact of micro finance activities on women empowerment. The result shows that microfinance activities are significant predictor of the women empowerment (Rathirane & Semasinghe 2014).

ENTREPRENEURSHIP AND RURAL ECONOMY

Entrepreneurs act as a key driver of Indian economy. The present growth of economy can be attributed to the entrepreneurial success of Indian business people and industrialists including women entrepreneurs. It is assumed that women entrepreneurs are asset of the developing country like India (Bama & Velmurugan-2018). They start up small enterprises, get self employed, and create job opportunity for other women. They are forming groups, making small savings at regular interval, accumulating capital through thrift and credit activities and availing loan during crucial need. Scholars have pointed out that women have sped up the idle funds mobilisation for micro enterprises, making small savings and enhancing per capita income among them.

Table 3: Progress of women entrepreneurship and domain of economy

<i>Progress in Entrepreneurship</i>	<i>Domain of economy</i>
Worldwide $\frac{1}{4}$ to $\frac{1}{3}$ rd of all businesses in the formal economy are headed by women including rural areas.	Emergence and growth as an economic force
Represented in all sectors, but mostly concentrated in farm and service sectors	Market sectors of women-owned firms
Major predictors of success are - work experience, years of involvement in self employment and educational background	Entrepreneurial and business characteristics
Primary sources of funding such as personal savings, credit from MFIs, high-growth firms tended to access a greater variety of funding sources.	Financing patterns at start-up and growth

Source: Gunrady et al. 2002).

In the context of entrepreneurship development, scholars have pointed out that domain of economy particularly in rural areas has observed expansion at par with the progress of women entrepreneurship. It shows in Table 3 that economic domain like emergence and growth as an economic force has led to worldwide involvement of women in the formal business and economy. Also, the market sectors are opening opportunities to women owned farms in the entrepreneurship concentrated mainly on farms followed by service sectors.

In the economists point of view, women entrepreneurship in India were concentrated with kitchen, kids & knitting but gradually it has arrived to powder, papad & pickles which has again arrived to electricity, electronics, energy & engineering. That means the progress of women entrepreneurship has been witnessing changes in its shape and size. (Gandhi *et al.* 2014). The pace of progress has also been analysed in light of certain global perspective by economists and academicians, which is being presented in the Table 4. It indicates that entrepreneurs' attributes were viewed as speculators during mid eighteenth century but in the end of 19th century such attributes have arrived to coordination, innovation and arbitration among women entrepreneurs. Also, during 20th century, radical changes on entrepreneurial attributes have been observed from innovation to risk taking & decision making in uncertain environment and alert to profitable opportunity as well.

Table 4: Women entrepreneurship era and the views of economists at global level

<i>Year</i>	<i>Economist</i>	<i>Era of entrepreneurship</i>	<i>Views on entrepreneurial attributes</i>	<i>Entrepreneurial attributes of Indian rural women</i>
1755	R. Cantillon	Classical	Entrepreneur as speculator	Compulsion and substitution to need
1890	A. Marshall	Neo-classical	Coordination, innovation and arbitration	Women invisible force in economy
1911	J. Schumpeter	Neo-classical	Innovation	Women in farm and small business
1921	K. Knight	Neo-classical	Taking risk and decision making in an uncertain environment	Women in economy and society
1973	I. Kirzner	Modern	Arbitration and alert to profitable opportunities	Women shining in national economy and society

Source: Alam S & Mahiuddin, G. (2014) and Haxhiu (2015).

GROWING OPPORTUNITIES OF ENTREPRENEURSHIP IN INDIA

In the context of emerging need for livelihood promotion of the poor, there has been a common trend for rural women to form a group with other poor women and move jointly for the self employment as well for better livelihood promotion among them.

As a result of that highly educated, technically sound and professionally qualified women are encouraged for starting up their own business, rather than dependent on wage employment in the outlets of big merchants or business house (Munny-2011). The government has also adopted certain plans and policies to explore the talents of young women through training, skill building and vocational education. A desirable environment is being created for every woman to boost up entrepreneurial values and train sufficiently in business dealings. Scholars have identified some additional business opportunities that are recently undertaken by the women entrepreneurs in rural areas (Rao-2000). Such as:

- Eco-friendly & biotechnology,
- Mobile & internet enabled enterprises,
- Event management,
- Tourism industry,
- Beauty culture,
- Hospitality & catering,
- LPG distributorship,
- Mineral water supply,
- Herbal & health care products,
- Food, fruits & vegetable processing.

Government has given more importance for agro-based products and allied products. The regional development in our country is getting balanced as the rural women are doing their business activities in backward and underdeveloped regions. Government is also encouraging them by giving subsidised benefit so that the women run enterprises lead to acceleration of economic growth. It has been found that women particularly the rural women are keen to reinvest their earning in education of their wards, nourishing their families which are also leading to economic growth of the nation.

CONCLUSION

Entrepreneurship development is not only a mean to promote better livelihood among poor women but also an effective approach to address the unemployment among the youths in any country. The stage wise articulation of various types of entrepreneurs have direct relation economic development of the areas concerned because it helps to encourage the poor backward class people starting a business with small amount of loan either from banks or from micro finance institutes including SHGs through which, means of income generation is ensured. Accumulation of thrift is no doubt strength to poor to utilise the same by larger part of communities for their economic as well social wellbeing. So called invisible roles played by poor women have gradually been becoming visible in the form of leading own institutes like SHGs, cooperatives, running enterprises, managing business and partnering development work of government. All

these have given recognition to poor women in the societal set up and majority of them are now being treated as valuable human capital in the society.

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