

# **PEARL** Multidisciplinary Journal

St Philomena's Exclusive Academic Research and Learning  
A Bi-Annual Multidisciplinary Peer Reviewed Research Journal

St Philomena College, Philonagar  
Darbe Post, Puttur, D.K., Karnataka -574 202

## Articles

Studies on Cell Inactivation Efficiency of Gamma and Proton Radiation Using MTT Assay

**Praveen Joseph, N N Bhat and Y Narayana**

Social Capital – A Research Agenda

**S Gunakar**

Green Banking – A Pathway to Sustainable Development

**Pradeep and Haribert Nazareth**

Employee Health and Welfare – A Pathway to Organizational Success

**Rakesh Kiran Tauro and Krishna**

Socio Economic Status and Working Conditions of Women Beedi Workers and The Need for Social Protection

**P M Mathew**

Behavioural Implications in Impoverishment of The Subaltern Sustainable Livelihood Models

**C P Prince**

# **PEARL**

## **Multidisciplinary Journal**

### **Managing Board**

Most Rev. Dr Aloysius P D'Souza  
Rt Rev. Msgr Denis Moras Prabhu  
Very Rev. Gerald D'Souza  
Very Rev. Alfred J Pinto  
Prof. Leo Noronha  
Rev. Dr Antony Prakash Monteiro

### **Editorial Board**

K B Vijayakumar  
Haribert Nazareth  
A P Radhakrishna  
Prasanna Kumar  
Deepak D'Silva  
Maxim Carl  
Krishna

### **Circulation Manager**

D Suma

### **Assistant Circulation Manager**

S G Manohara

### **Associate editor**

Bharathi S Rai

### **Editor**

C P Prince

---

ISSN: 2394-0352

**PEARL**  
**Multidisciplinary Journal**

Volume 1, No. 2,

August 2015

Studies on Cell Inactivation Efficiency of Gamma and Proton Radiation Using MTT Assay	Praveen Joseph N N Bhat Y Narayana	63
Social Capital – A Research Agenda	S Gunakar	71
Green Banking – A Pathway to Sustainable Development	Pradeep Haribert Nazareth	83
Employees Health and Welfare - A Pathway to Organizational Success	Rakesh Kiran Tauro Krishna	92
Socio Economic Status and Working Conditions of Women Beedi Workers and The Need for Social Protection	P M Mathew	108
Behavioural Implications in Impoverishment of The Subaltern Sustainable Livelihood Models	C P Prince	115



---

## Studies on Cell Inactivation Efficiency of Gamma and Proton Radiation Using MTT Assay

Praveen Joseph<sup>1</sup>, N N Bhat<sup>2</sup>, Y Narayana<sup>3</sup>

<sup>1</sup>Dept of Physics,

St Joseph's College, Moolamattom, Arakulam

Idukki, Kerala - 685 591

<sup>2</sup>RPAD, Bhabha Atomic Research Centre, Mumbai - 400 085

<sup>3</sup>Dept of Studies in Physics

Mangalore University, Mangalagangothri - 574 199

E-mail: vkattil@yahoo.com

**Abstract:** *The radiation damage of proton beam on tissues and cells has attracted attention and the unique radiobiological effects make proton radiation a useful tool for the investigation of radiation damage mechanisms. Potential use of protons and other charged particles for cancer treatment offer several advantages over low LET radiation cancer therapy. In the present study the effect of different doses of gamma and proton beams from the Folded Tandem Ion Accelerator (FOTIA) on human tumor adeno carcinoma (HT 29) cells has been analysed using MTT (Thiazolyl Blue Tetrazolium Bromide) assay. The cell proliferation of HT 29 cells after irradiation has been analysed using MTT assay after a post irradiation incubation of 72 hrs. The results of these investigations are presented and discussed in the paper.*

**Key words:** *Proton beam, gamma radiation, accelerator, cell survival, MTT assay*

### Introduction

Radiation plays an important role in life science and medicine. Much of radiobiology is done with photons but the behaviour of charged particles such as protons and heavy ions are different and they can be confined by magnetic and electric field and thus be accelerated and directed as needed [Hartmut F. W Sadrozinski, 2003]. The goal of radiotherapy is to maximize tumor-cell killing and to minimize normal tissue damage. Each normal and malignant tissue has its own radiobiological properties and biological parameters, and the response of normal and tumor tissues depends on the temporal pattern of radiation delivery such as dose, dose rate and dose fractionation and the presence of radiation sensitizers and protectors. At present, use of electron and proton radiation is constantly gaining importance in therapy applications. It offers many advantages over conventional <sup>60</sup>Co teletherapy, such as better dose profile and drastic reduction in dose to the normal tissues beyond the tumor. A clear

understanding of the biophysical aspects at different irradiation conditions has relevance in assessment of damage in biological systems and in radiation protection.

The present investigation was envisaged to compile and analyze the radiobiological effect of different radiation such as  $^{60}\text{Co}$  gamma rays, and 6 MV proton beam. Gamma and proton irradiation studies have been carried out on human tumour adeno carcinoma (HT29) cells and the Thiazolyl blue Tetrazolium Bromide (MTT) Assay has been carried out to find the cell survival.

## **Materials and Methods**

### **Radiation Sources**

#### **Gamma Chamber - 900**

Gamma Chamber - 900 is a compact self-shielded  $^{60}\text{Co}$  gamma irradiator providing an irradiation volume of ~ 900 cc. The source pencils are placed concentrically in a cylindrical geometry. The samples for irradiation are placed in an irradiation chamber, which is cylindrical in geometry. This shaft can be moved up and down with the help of a system of motorized drive, which enables precise positioning of the irradiation chamber at the centre of the radiation field. Since samples were exposed from all sides, it gives better uniformity in dose distribution within the samples, as it reduces the depth dose and build up effects. A Perspex sample holder with 8 sample positions was used to deliver the precise dose. Using upward and downward switches, the shaft can be moved vertically downward for irradiation and upward to remove the irradiated samples.

#### **The Folded Tandem Ion Accelerator**

Proton beams are accelerated using the FOTIA facility at Bhabha Atomic Research Centre (BARC) (Singh P 2001). The FOTIA is an electrostatic accelerator with a maximum terminal voltage of 6 MV. In FOTIA, the negative ion beams extracted from the SNICS-II source are pre-accelerated up to 150 keV. Negative ions of the desired mass are selected using a  $70^\circ$  dipole magnet and injected into the low energy accelerating tube through a  $20^\circ$  electrostatic deflector. An electrostatic quadrupole triplet is used to focus and match the beam parameters to the acceptance of the low energy tube. The electrons of these accelerated negative ions get stripped off at the stripper and the charge state of the positive ions thus produced is selected with the  $180^\circ$  magnet inside the high voltage

terminal before being bent into the high energy accelerating tube where they further accelerated. At the exit of the 180° magnet, the beam diverges. An electrostatic quadrupole doublet is used to focus the beam before it enters the high energy tube. The beams accelerated in the high energy accelerating tube are focused using a magnetic quadrupole triplet. The beam is transported to the experimental area using a magnetic quadrupole triplet and a switching magnet. Beam profile monitors and Faraday cups have been installed in the beam line to measure the size, shape and position of the beam.

The beam was characterized by performing the Rutherford Back Scattering (RBS) on gold, tin and iron targets which were in the form of self-supporting foils. The targets were mounted inside the 80 cm diameter scattering chamber installed in the beam line direction. A thin target of <sup>197</sup>Au was detected using the surface barrier detector mounted at an angle of 80° on one of the arms in the scattering chamber. To calibrate the pulse height of the detector, an alpha source was kept on one of the target holders. The details are given elsewhere (Singh P, 2001).

The primary proton beam from the FOTIA was collimated using an adjustable slit to reduce the fluence and then diffused using a gold foil. The diffused beam was channeled to the exit window made of 20 μm titanium foil of 3 cm diameter to get uniformly distributed irradiation area. The average beam current was 2 nA with a beam size of about 3X 3 cm on the sample. Both the fluence and beam energy were measured at the sample position using a SSB detector. Another SSB detector placed inside the scattering chamber at a forward angle of 80° to the primary beam, after the gold foil, served as a monitor detector. The ratio of the monitor detector counts to that of the flux measured using SSB detector at the sample position was measured by multiple trials and the calibration factor was obtained. Monitor detector counts and the measured ratio were used for delivering the required fluence to the samples. The beam profile at the sample position was also measured using SSB detector. The samples were thus irradiated under normal atmospheric pressure at 24°C. The target to be irradiated was positioned at a distance of 11 mm from the exit window, that being the closest possible place to mount the target.

### **Sample Preparation for Irradiation**

HT 29 is a cell line derived from human colorectal cancer cells and it can be used for tumorigenic studies. For the present studies HT 29

cells were obtained from National Centre for Cell Sciences (NCCS), Pune, India.

HT 29 cells were grown in 25 ml cell culture dishes (Falcon) and maintained in Dulbecco's modified essential medium (DMEM) supplemented with 10% fetal calf serum (FCS; Himedia) at 37°C in a humidified atmosphere containing 5% CO<sub>2</sub>. Cells were passaged every 7 days at a 1:10 split and the experiments were performed on the day of 70-80% confluence. Cultured cells were harvested with 0.025% trypsin EDTA and washed in complete media by centrifugation and diluted to a concentration of 2 X 10<sup>5</sup> cells ml<sup>-1</sup>. The cells attached to 3 cm diameter petri-plates were mounted vertically at the beam exit window for the proton irradiation.

### **Thiazolyl blue Tetrazolium Bromide (MTT) Assay**

MTT assay offers a quantitative, convenient method for evaluating cell survival response to ionizing radiation. It is a colorimetric assay for measuring the activity of enzymes that reduce MTT to purple color formazan product. The amount of color produced is directly proportional to the number of viable cells. Yellow MTT (3 - (4, 5 - Dimethylthiazol-2-yl)-2, 5- diphenyltetrazolium bromide, a tetrazole) is reduced to purple formazan in living cells (Mosmann 1983). A solubilising solution such as DMSO is added to dissolve the insoluble purple formazan product into a colored solution (Altman 1976). Solubilization of the cells results in the liberation of the purple product which can be detected using a calorimetric measurement. The resulting purple solution is spectrophotometrically measured (Denizot and Lang 1986). An increase in cell number results in an increase in the amount of MTT formazan formed and an increase in absorbance. The ability of cells to reduce MTT provides an indication of the mitochondrial integrity and activity which, in turn, may be interpreted as a measure of the cell survival. When the amount of purple formazan produced by cells treated with radiation is compared with that produced by unirradiated control cells, the effectiveness of the agent in causing death of cells can be deduced, through the production of a dose-response curve. MTT assay has been carried out to understand the cell survival in HT 29 cells after proton and gamma irradiation.

After radiation treatment 100µl of cell suspension in complete media was inoculated to each well of 96-well plates at the density of 2×10<sup>4</sup> cells/well (the area of each well was 0.32 cm<sup>2</sup>). After 24 h of culture, 100µl of media was added to each well. The total incubation time will be

depending on the doubling time of the cells used. After post irradiation incubation, the media was aspirated out of each well and 100 $\mu$ l of MTT solution prepared by dissolving the MTT dye (Thiazolyl blue tetrazolium bromide) in PBS to a concentration of 1 mg ml<sup>-1</sup> was added and the plates were incubated in the dark for 4 h at 37°C. After incubation the dye was removed by inverting and tapping the plates and the formazan crystals formed were solubilized by incubating the cells with 200 $\mu$ l DMSO for 20 min at 37°C in the dark. Absorbance at 550 nm wavelength was measured on a multi-well scanning spectrophotometer (EL<sub>x</sub> 800) and the results were expressed as a percentage (%) of the control.

### Statistical Analysis

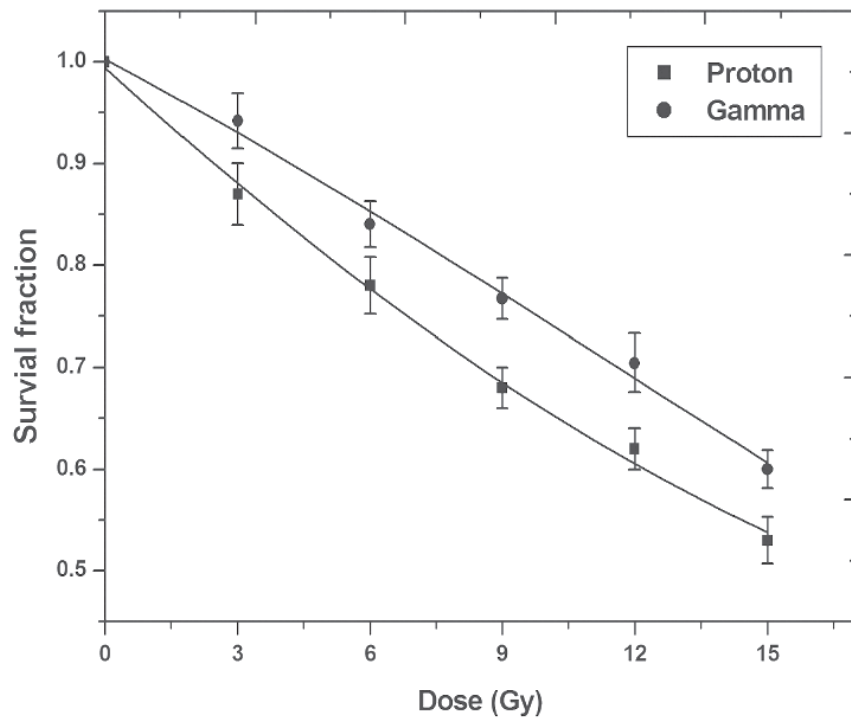
Statistical analysis of the data was carried out using the software Microcal Origin Version 8. The differences in cell survival between control and irradiated groups and between two irradiated groups were analysed using Student's *t*- test. Differences where  $P < 0.05$  were considered to be statistically significant [Chaubey et al., 2001]. Data are presented as the mean  $\pm$  standard deviation (S.D.)

### Results and Discussions

Radiation plays an important role in life science and medicine. Much of radiobiology is done with photons but the behavior of charged particles such as protons and heavy ions are different and they can be confined by magnetic and electric field and thus be accelerated and directed as needed (Hartmut Sadrozinski 2003). In recent years the low energy heavy ion accelerators have an important role both in basic and applied sciences (Singh 2001). Potential use of protons and other charged particles in the cancer treatment offer several advantages over low LET radiation cancer therapy. An important feature of proton beams arises from the physical aspects of their dose distribution. Proton beams can provide highly localized, uniform doses of radiation to tumors, while sparing the surrounding normal tissues, compared with conventional modalities using photons or electrons (Sang Soo Kim *et al.*, 2011). Although there are no randomized clinical trials comparing proton beam therapy with conventional X-ray therapy, the superiority of clinical effectiveness of proton beam therapy might result from its previously mentioned physical characteristics (Goitein and Cox 2008). This is why proton beam therapy is considered as a promising new treatment for malignant tumors.

The cells were exposed to different doses of radiation under normal atmospheric pressure at 24°C. The total dose delivered to the sample

varied from 0 to 15 and the dose rate used was 2 Gy min<sup>-1</sup>. Immediately after irradiation, 100µl of cell suspension in the media was inoculated into each well of 96-well plates (Falcon) at a density of 2×10<sup>4</sup> cells per well and the cells were incubated for 72 hrs. After the incubation MTT assay has been carried out to understand the cell survival after exposure with different doses of proton and gamma radiation. The iso-effective doses obtained from the fitted curves were compared between the proton beam and reference gamma rays.



**Figure 1:** Cell proliferation of HT 29 cells with dose after irradiation with proton and gamma radiation measured using MTT assay.

Dose response curves for HT 29 cells exposed to different doses of 3.2 MeV protons and gamma radiation are shown in figure 1. The samples were irradiated with different doses ranging from 0 to 15 Gy. MTT assay was applied to quantify the cell proliferation after radiation treatment.

In the figure 6.1, the dose – cell survival relationship has been represented by a Sigmoidal (dose response) fit with  $\chi^2 = 2.33\text{E-}4$  for proton and  $2.96\text{E-}4$  for gamma radiation. A statistically significant decrease in cell survival with increase in dose is observed. From the figure it is clear that for the proton beam cell proliferation decreases with the number of ions traversing the cellular nuclei and the cell inactivation efficiency is more for proton in comparison with gamma radiation.

### **Conclusion**

Dose survival response of HT 29 cells exposed to different doses of 3.2 MeV protons from the FOTIA and gamma radiation from  $^{60}\text{Co}$  source has been studied using MTT assay. A statistically significant decrease in cell survival with increase in dose was observed. The cell proliferation decreases with the number of proton particles traversing the cellular nuclei and the cell inactivation efficiency is more for proton in comparison with gamma radiation. Proton beam therapy can deliver high doses to the target while sparing surrounding healthy tissues compared with conventional X-ray therapy. The study has relevance in radiation therapy.

### **Acknowledgement**

The help received from Dr Mayya YS, Dr Sapra BK, Dr Sreedevi B, Dr Anjaria KB, Abhay Puthli, Reeta Tiwari and Esha Singh during the work is thankfully acknowledged.

### **References**

- Altman, F. P. (1976). Tetrazolium salts and formazans, *Progress in Histochemistry and Cytochemistry*, 9(3): 1
- Chaubey, R C, Bhilwade, H. N., Rajagopalan, R. and Bannur. S. V. (2001). Gamma ray induced DNA damage in human and mouse leucocytes measured by SCGE-Pro: a software developed for automated image analysis and data processing for Comet assay, *Mutation Research*, 490: 187.
- Denizot, F. Lang, R. (1986). Rapid colorimetric assay for cell growth and survival, *Journal of Immunological Methods*, 89: 271.
- Goitein, M. and Cox, J. D. (2008). Should randomized clinical trials be required for proton radiotherapy?, *Journal of Clinical Oncology*, 26: 175.

- Mosmann, T. (1983). Rapid colorimetric assay for cellular growth and survival: application to proliferation and cytotoxicity assays, *Journal of Immunological Methods*, 65: 55.
- Hartmut, F. and Sadrozinski, W. (2003). *Nuclear instruments and methods in physics research section A: Accelerators, spectrometers, detectors and associated equipment*. 514(1-3): 224.
- Sang Soo Kim, Dong Wan Choo, Dongho Shin, Hye Jung Baek, Tae Hyun Kim, Noboru Motoyama, Blanche, M. De Coster, John Gueulette, Yoshiya Furusawa, Koichi Ando, and Kwan Ho Cho. (2011). In Vivo Radiobiological Characterization of Proton Beam at the National Cancer Center in Korea: Effect of the CHK2 Mutation, *International Journal of Radiation Oncology Biology Physics*, 79(2): 559.
- Singh, P. (2001). Folded tandem ion accelerator facility at BARC, *Pramana - Journal of Physics*, 57: 639.

---

## Social Capital – A Research Agenda

### S Gunakar

Assistant Professor  
Dept of Commerce  
Pompei College  
Aikala - 574141  
E-mail: gunakarsurathkal72@gmail.com

**Abstract:** *There are four forms of capital which contributes to the success of any activity. They are financial capital, natural capital, physical capital and human capital. But apart from these four forms of capital, there is one more invisible form of capital that also contributes to the success of the activity/programme i.e. Social capital. Today, the concept of 'Social capital' gained a momentum in the research field and widely discussed by the scholars and considered as a sustainable development of Common Property Resources. By reviewing the literature, this paper explains the concept of social capital, its forms, dimensions and impact.*

**Key words:** *Social capital, common property resources, dimensions, impact*

### Introduction

In recent years the concept of 'social capital' has been seriously considered as one of the determining factors in economic growth and development and reduction of poverty (Knack and Keefer 1997). The concept traces its origin in the West but found its application mainly in the Third World countries especially through the World Bank. Now, it is a widely used buzzword in the current discourses on development and is mentioned as the "missing link in development" by the World Bank literature (World Bank, 2000).

Though social factors play a significant role in everyday life of the people in India, very little research has been done to examine the way they are linked to livelihoods of people (Platteau, 1994a, 1994b; Nandakumar, 2007). Government policy, which aims at the socio-economic development, increases the investment in physical infrastructural facilities without considering the role of social institutions prevailing in the community/sector. Lack of recognition of these institutions is one of the important reasons for the failure of the project.

### Objectives of the study

1. To clarify the concept of 'social capital'.
2. To provide an empirical evidence about the potential benefits of social capital.

### **Social Capital: Conceptual Framework**

The term social capital was first used in 1916 by L. J. Hanifan, a state supervisor of rural schools in West Virginia, U.S.A. who saw regular contact between neighbours as an accumulation of social capital (Conard, 2008). Hanifan (1916) described social capital as those tangible substances [that] count for most in the daily lives of people: namely good will, fellowship, sympathy, and social intercourse among the individuals and families who make up a social unit.... If an individual comes into contact with his neighbor, and they with other neighbors, there will be an accumulation of social capital, which may immediately satisfy his social needs and which may bear a social potentiality sufficient to the substantial improvement of living conditions in the whole community (Cited in Woolcock and Narayan, 2000 pp. 228-229).

The concept of social capital did not get much recognition and popularity for several decades after Hanifan. But it was reinvented during 1950s and 1970s by sociologists, economists and political scientists. The first systematic analysis of social capital was produced by Bourdieu (1986), (Jong, 2010). However, it was the work of Coleman (1988, 1990) on education and by Putnam (1993, 1995) on civic participation and educational performance, thrown light on the importance of the concept (Woolcock and Narayan, 2000). Robert Putnam's book *Bowling Alone* presented a compelling account of American's dramatically declining social capital over the latter half of the 20<sup>th</sup> century (Conard, 2008).

Among the various theories, the works of the three 'key players' in the development of social capital, - Bourdieu (1986), Coleman (1988), and Putnam (1995 and 2000) have significantly influenced the theoretical development of social capital (Bruniea, 2008). We present below important theories that relate to different aspects of social capital.

Point of difference Definition	Bourdieu (1970 and 1980) (French Sociologist)	Coleman (1980) (Sociologist)	Putnam (1990) (Political economist)
Definition	... aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalised relationships of mutual acquaintance and recognition or membership in a group-which provides each of its members with the backing of the collectively owned capital, a 'credential' which entitles them to credit, in the various senses of the word (Bourdieu, 1986, pp.248-249).	Social capital is defined by its function, it is not a single entity but a variety of different entities, with two elements in common: they all consist of some aspect of social structures and they facilitate certain actions of actors-whether persons or corporate actors-within the structure (Coleman, 1988, p.95).	"... features of social organisation such as networks, norms and social trust that facilitate co-ordination and co-operation for mutual benefit" (Putnam, 1993, p.67). Putnam (2000) extended the definition of social capital as social capital is closely related to what some have called 'civic virtue'. The difference is that 'social capital calls attention to the fact that civic virtue is most powerful when embedded in a network of reciprocal social relations. A society of many virtuous but isolated individuals is not necessarily rich in social capital (p.19).
Unit of analysis	Individual/ family	Individual/ family (Field 2008)	Community/regional level as a collective asset.
Characteristics	Part of other capital resources, accumulated in the process of development (Bourdieu, 1986).	Included in the relations such as obligations, expectations, trust etc. (Gupta, 2008).	Reciprocity, co-operation, trust, historical roots at the community/regional level (Schuller, Baron and Field, 2000 cited in Warwick-Booth, 2008).

---

Relationship with other resources	Cultural and economic capital integrated with social capital (Bourdieu, 1986).	Independent social relations, network, support etc. are prioritised (Gupta, 2008).	Positive and direct relationships between social capital and economic growth and political integration. (Warwick-Booth, 2008).
Substituted with other capital	Substitution is possible among the other resources depending on area of application and cost of transaction (Bourdieu, 1984, cited in Hauberer, 2010).	Substitution is not possible.	Ethical dimensions of social capital are independent and hence cannot be substituted. However, human capital is integrated with it (Putnam, 2000).
Components	Credentials, network along with economic variables	Social relations, trust, capacity of flow of information, and norms. (Gupta, 2008).	Trust, norms, networks, reciprocity. (Putnam, 1993).
Type of good/services	Network as a public good	Public good (Warwick-Booth, 2008).	Public and private (Hauberer, 2010).
Origin of theory	Marxism (Gupta, 2008).	Liberal socialism	Collectivism

Dasgupta (2000) defined the social capital as “something that encourages us to amalgamate in commensurable objects, namely (in that order) beliefs, behavioural rules and such forms of capital assets as interpersonal links, without offering a hint as to how they are to be amalgamated” (p.327).

According to Uphoff (2000) all forms of social capital represent assets of various kinds of yielding streams of benefit. The ‘income stream’ that flows from the social capital is analysed here as mutually beneficial collective action. The analysis delineates two main categories of social capital: structural: (roles, rules, precedents and procedures) and cognitive (norms, values, attitudes and beliefs) A continuum of social capital is presented in terms of people’s orientation towards positive-sum outcomes and towards positive interdependence of utility functions (p.215).

The World Bank (2000) defines social capital as “the institutions, relationships and norms that shape the quality and quantity of society’s social interactions . . . social capital is not just the sum of the institutions, which underpin a society-it is the glue that holds them together” (World Bank, 2000 p.1). The World Bank social capital scholars “treat” social capital as a genuine asset that requires investment to accumulate and that generates a stream of benefits (Pawar, 2006). According to Serageldin (1998)

Social capital refers to the internal social and cultural coherence of society, the norms and values that govern interactions among people and institutions in which they are embedded. Social capital is the glue that holds societies together and without which there can be no economic growth or human well being (forward by Serageldin in Grootaert, 1998, p.2).

Social capital refers to trust, networks and norms shared by a group of actors that enable them to act together effectively to pursue shared objectives. It is a resource - a capital - that consists of relations people have with other people. The broad complex of social interactions, norms, rules and institutions are known as social capital (Woolcock, 1998; Ostrom, 2000). Organisation for Economic Co-operation and Development (OECD) (2001) defines social capital as the “networks together with shared norms, values and undertakings that facilitate co-operation within or among groups” (quoted in Office for National Statistics, 2001 p.8) Ostrom (2000) writes, Social capital is the shared knowledge, understandings, norms, rules and expectations about patterns of interactions that groups of individuals bring to recurrent activity ...When they face social dilemmas or collective-action situations...participants must find ways of creating mutually

reinforcing expectations and trust to overcome the perverse short-run temptations they face (p.176).

The broad complex of social interactions, norms, rules and institutions are known as social capital (Woolcock, 1998; Rudd, 2000; Woolcock, and Narayan, 2000).

The above discussion depicts that social capital has been variously defined from being a resource embedded in social relations that permits individuals and/or communities to achieve desired goals (Coleman, 1988) to features of social life-networks, norms, and trust-that enable participants to act together more effectively to pursue shared objectives (Putnam, 1993). All these definitions of social capital highlight elements such as trust and associational linkages, although they give different weightage to their importance. The different definitions also emerge from a variety of sociological tradition. We can conceptualise social capital as networks of social relations which are characterised by norms of trust and reciprocity, and which facilitate co-ordination and co-operation for mutual benefit. All definitions are based on the principle that social capital provides advantage to those who have access to it (Burt, 1997). In nutshell social capital can be summed up in two words: relationships matter (Field, 2008).

### **Social Capital: Bridging, Bonding and Linking**

Different combinations of network characteristics affect the overall capability of social capital. In the social capital theory distinctions have been made on the basis of different combinations of network characteristics, ‘bonding’ ‘bridging’, and ‘linking’ social capital (Gupta, 2008). According to Woolcock and Sweetser (2002,) bonding social capital refers to connections to people like you [family, relatives, kinship]...bridging social capital refers to connections to people who are not like you in some demographic sense,” and “linking social capital pertains to connections with people in power, whether they are in politically or financially influential positions (cited in Adhikari, 2008, p. 4).

Bonding social capital describes close association among people such as friends or members of particular subgroups, who are likely to have similar outlooks and objectives (Plummer and Fitzgibbon, 2006).

Bridging social capital refers to relation with distant friends, associates and colleagues. It is the capacity of people to develop relationship among individuals of greater social distance such as colleagues or other

community members, who may have different views (Plummer and Fitzgibbon, 2006). Bridging Social capital is generated when we connect with people who are outside the circle of our natural or instinctive acquaintances. The difference might be of class, ethnicity, religion, education and income (Gupta, 2008).

Linking social capital refers to relations between individuals and group in different social strata in hierarchy where power, social status and wealth are accessed by different groups (Woolcock, 2001, cited in Office of the National Statistics, 2010). It describes the ability of groups to engage vertically with external agencies, either to influence their policies or to draw on useful resources (Pretty and smith, 2004). It involves social relations with those in authority, which may be used to garner resources or power.

### **Dimensions of Social Capital**

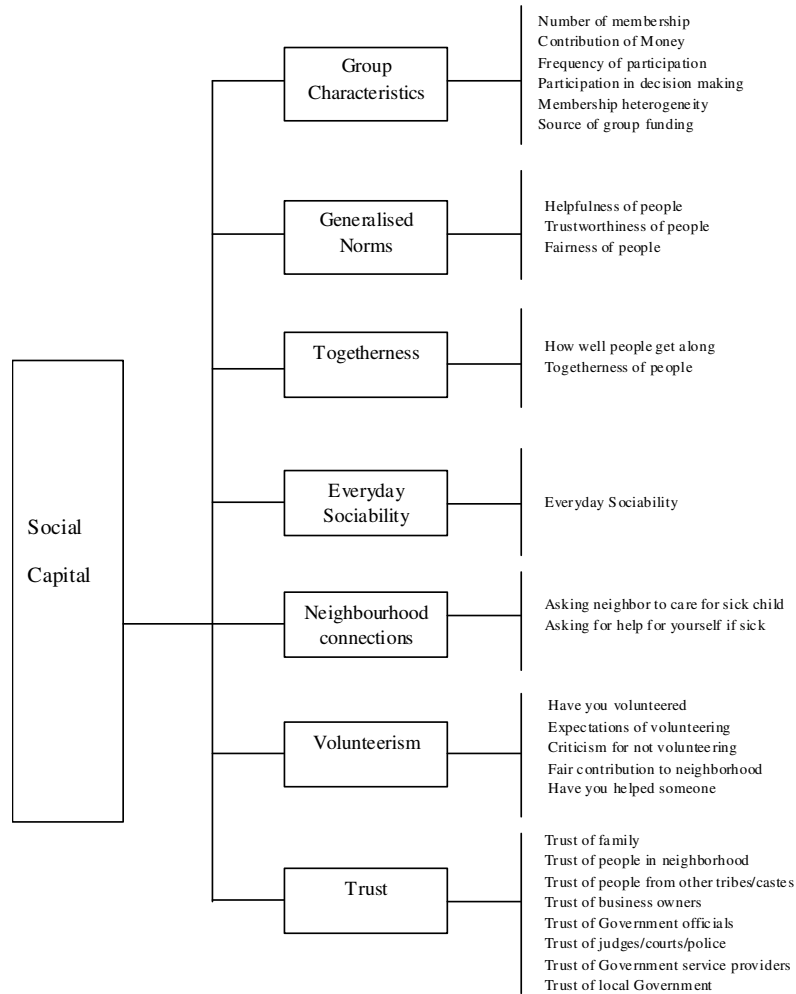
It is widely accepted that human capital cannot be measured directly. Education level can be used as one of the proxies for its measurement. Similarly, social capital can be measured by some proxy variables. Since social capital is a complex concept comprising large array of concepts and micro, meso and macro levels, we have to identify the suitable variable(s) in each dimension for its quantification. According to many scholars, social capital comprises social networks, norms of reciprocity or social support and social trust. Most of the definitions revolve around three elements: social networks, norms of reciprocity and trust (Ferlander, 2003). As the social capital is multidimensional, it is difficult to state the universally accepted dimensions to assess the social capital. Hean, Cowley, Forbes, Griffiths, and Maben (2003, p.1062) cited the following dimensions of social capital:

1. Trust (Coleman, 1988; Collier, 1998; Putnam, 1993)
2. Rules and norms governing the social action (Collier, 1998; Coleman, 1988; Fukuyama, 1999; Portes and Sessenbrenner, 1993).
3. Types of social interactions (Collier, 1998; Snijders, 1999).
4. Network resources (Kilpatrick, 2000; Snijders, 1999) and
5. Other network characteristics (Putnam, 1995; Kilpatrick, 2000).

The World Bank (undated) suggested four dimensions for measuring the social capital. They are groups and networks, trust, collective action, and information and communication.

Figure 1 illustrates the dimensions identified by Narayan and Cassidy (2001 cited in Claridge, 2004).

**Figure 1: The dimensions of social capital**



Source: Social Capital and Natural Resource Management (Claridge, 2004).

### **Impact of Social Capital**

There is growing theoretical evidence that social capital can have an impact on development outcomes, including growth, equity, and poverty alleviation (Grootaert, 1998; Dasgupta, 2000). Social capital generates wide range of future benefits. The benefits include information sharing and matching of people to economic opportunities, mutual aid and insurance, as well as effective collective action (Chou, 2006). Social capital benefits both individuals as well as society at large.

Social capital also improves individual awareness of ways in which human fate is linked, allowing people to become more tolerant, less cynical and more empathetic to the needs of others. The participation by individuals in social networks increases the the research according to Fafchamps and Minten (1999) shows that better-connected Madagascar traders have access to more accurate information on prices and credibility of clients, resulting in higher profit margins. They pointed out that social networks enabled traders to reduce transaction costs. Further the agricultural traders in Madagascar ranked the importance of relationships for success in business, higher than input prices, output prices, and access to credit or equipment. Krishna and Uphoff (1999) describe how farmer groups in the Indian state of Rajasthan use local structural and trust capital to build consensus on the use of watershed land, resulting in more productive use of these lands, as well as improved outcomes for broader development services. Pai (2001), by means of extensive empirical analysis, examined the impact of social capital on democratic functioning of panchayat institutions in two districts in Uttar Pradesh. The study shows that social capital exists within, but not between, segments in rural society. She summarises the problem: “Group . . . identities have the potential to create strong reservoirs of social capital within segments, but they do not facilitate – and in fact inhibit – the creation of a more broad based . . . social capital, which has the capacity to ensure responsive democratic government” (p. 652).

### **Conclusion**

Very few Indian studies have thrown light on how to quantify social capital to assess its impact on the wellbeing of an individual/household at micro level. The review shows the existing research gap in the empirical estimation of social capital as there is no consensus on how to define the social capital comprehensively (Bjornskov, 2004). The theoretical framework presented in this chapter shows that in order to assess the extent of success of any project social capital needs to be properly understood. However, there is no

uniform method of conceptualising the social capital, since it encompasses broader spectrum of variables from trusts and beliefs to reciprocity. Most of the empirical studies (*for e.g.*, Putnam, Leonardi and Nanetti, 1993; Narayan and Pritchett, 1999) measure social capital through “indirect” indicators, like crime rates, blood donation, teenage pregnancy, participation rates in tertiary education etc.

## References

- Adhikari, K. P. (2008). Bridging, linking and bonding social capital in collective action. *CAPRI Working Paper 79*, Washington D.C.: International Food Policy Research Institute.
- Bourdieu, P. (1986). The forms of capital. In J. G. Richardson (Ed.), *Handbook of Theory and Research for the Sociology of Education*, 241–258. New York: Greenwood Press.
- Chou, Y. K. (2006). Three simple models of social capital and economic growth. *Journal of Socio-Economics*, 35(5): 889-912.
- Claridge, T. (2004). *Social capital and natural resource management*. (Unpublished doctoral dissertation), Australia: University of Queensland.
- Coleman, J. S. (1988). Social Capital in the Creation of Human Capital. *The American Journal of Sociology*, 94 (supplement), S95-S120.
- Coleman, J. S. (2000). Social Capital in the Creation of Human Capital. In P. Dasgupta & I. Serageldin (Eds.), *Social capital: A multifaceted perspective*, 3-39, Washington D. C.: The World Bank.
- Coleman, J.S. (1990). *Foundations of social theory*, Cambridge, MA: Harvard University Press.
- Collier, P. (1998). Social capital and poverty. *Social Capital Initiative Working Paper 4*. Washington D. C.: The World Bank.
- Conard, D. (2008). Defining social capital. In K.R. Gupta., G. L. H. Svendsen and P. Maiti (Eds.), *Social capital*, 1: 53-60. New Delhi: Atlantic Publishers and Distributors.
- Dasgupta, P. (2000). Economic progress and idea of social capital. In P. Dasgupta, and I. Serageldin (Eds.), *Social capital: A multifaceted perspective*, 325-424, Washington D. C.: The World Bank.
- Fafchamps, M., and Minten, B. (1999). Social capital and the firm: Evidence from agricultural trade. *Social Capital Initiative Working Paper 17*, Washington D. C.: The World Bank.

- Field, J. (2008). *Social capital*. Abingdon, Oxon: Routledge.
- Grootaert, C. (1998). Social capital: The missing link?. *Social capital Initiative Working Paper 3*, Washington D. C.: The World Bank.
- Gupta, K. R. (2008). Social capital- An overview. In K. R. Gupta, G. L. H. Svendsen and P. Maiti (Eds.), *Social Capital*, 1-19, New Delhi: Atlantic Publishers.
- Hauberer, J. (2010). *Social capital theory: Towards a methodological foundation*. Germany: V S Verlag Publisher.
- Jong, T. D. (2010). *Linking Social capital to knowledge productivity*. Houten: Springer Uitgeverij
- Joshi, R., Banwet, D. K., and Shankar, R. (2010). Consumer link in cold chain: Indian Scenario, *Food Control*, 21(8): 1137-1142.
- Kilpatrick, S. (2000). How social capital facilitates learning outcomes for small family businesses. Retrieved May 25, 2010, from World Wide Web: [http:// www.crla.utas.edu.au/discussion/d2-2000.shtml](http://www.crla.utas.edu.au/discussion/d2-2000.shtml).
- Knack, S., and Keefer, P. (1997). Does social capital have an economic payoff? A cross country investigation. *Quarterly Journal of Economics*, 112(4): 1251-1288.
- Narayan, D., and Pritchett, L. (1999). Cents and sociability: Household income and social capital in rural Tanzania. *Journal of Economic Development and Cultural Change* 47(4): 871-897.
- Ostrom, E. (2000). Social capital: A fad or fundamental concept?, In P. Dasgupta and I. Seragilden (Eds.), *Social capital: A Multifaceted Perspective*, 172-214, Washington D. C.: The World Bank.
- Pawar, M. (2006). "Social" "Capital"?. *The Social Science Journal*, 43(2): 211-226.
- Pretty, J., and Smith, D. (2004). Social capital in biodiversity conservation and management. *Conservation Biology*, 28 (3): 631-638.
- Putnam, R. D. (1995). Bowling alone: America's declining social capital. *Journal of Democracy*, 6(1): 65-78.
- Putnam, R. D. (1993). The prosperous community: Social capital and public life. *The American Prospect*, 13: 35-42.
- Putnam, R. D. (2000). *Bowling Alone: The collapse and revival of American community*, New York: Simon and Schuster.

- Putnam, R., Leonardi, R., and Nanetti, R. (1993). *Making democracy work: Civic traditions in modern Italy*. Princeton, N. J.: Princeton University Press.
- Snijders, T. A. B. (1999). Prologue to the measurement of social capital. *The Tocqueville Review*, 20(1): 27-44.
- Uphoff, N. (1993). Grassroots organisations and NGOs in rural development: Opportunities with diminishing status and expanding market. *World Development*, 21(4): 607-622.
- Uphoff, N. (2000). Understanding social capital: Learning from the analysis and experience of participation. In P. Dasgupta and I. Serageldin (Eds.), *Social Capital: A Multifaceted Perspective*, Washington D. C.: World Bank. 214-249.
- Warwick-Booth, K. R. (2008). Role of social capital within regeneration: Can building social capital benefit regeneration context? *A review of the literature*. In K.R. Gupta, G. L. H. Svendsen & P. Maiti (Eds.), *Social Capital*, New Delhi: Atlantic Publishers. 1: 35-52.
- Woolcock, M. (1998). Social capital and economic development: Towards a theoretical synthesis and policy framework. *Theory and Society*, 27(2): 151-208.
- Woolcock, M., and Narayan, D. (2000). Social capital: Implications for development theory, research and policy. *World Bank Research Observer*, 15(2): 225–249.
- World Bank. (2000). Social capital initiative. Retrieved January 18, 2010, from World Wide Web: <http://worldbank.org/poverty/scapital/scindex.html>.
- World Bank. (undated). Social capital: Measurement tools. Retrieved: February 10, 2010, from the World Wide Web: <http://go.worldbank.org/KO0QFVW770>.

---

## **Green Banking – A Pathway to Sustainable Development**

**Pradeep<sup>1</sup>, Haribert Nazareth<sup>2</sup>**

<sup>1</sup>Lecturer, Dept of Post Graduate studies in Commerce  
Pompei College, Aikala

<sup>2</sup>Associate Professor Dept of Commerce  
St Philomena College, Puttur

**Abstract:** *It is well known fact that our ecosystem has undergone a rapid change due to climate change and other reasons. It is the concern and duty of human beings to see that our planet is protected and would provide a safe place to live for our future generation. Banks and financial institutions can also play a major and decisive role to make our planet a better place to live in. As providers of finance, banks can ensure that businesses adopt environment-friendly practices. Incentives by way of offering cheaper funds for adopting green technologies will have a long term beneficial impact on the environment. As major implementers and users of technology, banks themselves can adopt green practices and thereby lead the way in this global initiative of protecting the planet. With this background the present study aims at analyzing the role of Reserve Bank of India in initiating green banking practices and describe steps taken by State Bank of India (SBI) in promoting green banking.*

**Key words:** *Green Banking, sustainable development, environment, climate change*

### **Introduction**

In the past two and half decades Indian economy has been rapidly growing, both by its own historical standards and also as compared to other countries (Motiram and Vakulabhavararam, 2013). Further, over the last 20 years there is a huge cry to protect our planet from the damages caused to it as these developments were at the cost of polluting environment. Today, a large variety of anthropogenic changes involving climate, biological invasion, land use and land cover including site desertification and biodiversity depletion taking place rapidly at an increasing rate (Ramakrishnan, 2012). Many research studies proved that there is a direct correlation between climate change and occurrences of natural disasters. Reckless and unimaginative growth is endangering the planet and the adverse consequences are manifested in global warming, climate change, fickle weather, floods, droughts, pollution, high green house gas emissions, etc. Environmental damages are reaching a scale at which they are beginning to threaten both growth prospects and

the progress achieved in social indicators. Banks are also a party to ecological footprint directly and indirectly through investment/lending in their customer enterprises. Like any other enterprises, as consumers of natural resources, banks directly interact with the environment. For instance, banks contribute towards the carbon emission directly in their day-to-day operations in terms of use of paper, electricity, lighting, air conditioning, electronic equipment and other things, although this is moderate compared to other carbon sensitive industries like steel, oil and gas, etc. Banks affect the environment indirectly by financing intermediaries who are the major source of long term funding to various industries that pollute the environment heavily. Hence, it is imperative to understand the need for sustainable practices for banking. Therefore, sustainable development and preservation of environment are considered as paramount importance to allow the present and future generations to live in this globe. To mitigate the ill effects of developments number measures have been initiated by 3R's – Reduce, Reuse, and Recycle. What is needed is green growth—that is, growth that is efficient in its use of natural resources, clean in that it minimizes pollution and environmental impacts, and resilient in that it accounts for natural hazards and the role of environmental management and natural capital in preventing physical disasters( World Bank, 2012). Banks and financial institutions can play a major and decisive role in these global efforts to make our planet a better place to live in. As providers of finance, banks can ensure that businesses adopt environment-friendly practices. Incentives by way of offering cheaper funds for adopting green technologies will have a long term beneficial impact on the environment. As major implementers and users of technology, banks themselves can adopt green practices and thereby lead the way in this global initiative. Also, product innovation and leveraging on the use of technology enable banks and their customers today to reduce the usage of resources such as paper, thereby aiding in environmental protection. With this background this study aims at analyzing the steps taken by the Reserve Bank of India to initiate green banking practices.

### **Objectives of the Study**

1. To examine the regulatory measures taken by the RBI for promoting Green Banking.
2. To study the steps taken by SBI to practice Green Banking initiatives.
3. To suggest measures for effective implementation of the concept of Green Banking.

## **Methodology**

The study is theoretical in nature and based on secondary data drawn from various reports of Reserve Bank of India, books, journals and websites.

## **Concept of Green Banking**

The concept of Green Banking is a recent development in financial world. Green Banking means promoting environment-friendly practices and reducing carbon footprint from the banking activities. This could be achieved by; using online banking instead of branch banking, paying bills online instead of mailing them. Green Banking is an umbrella term referring to practices and guidelines that make banks sustainable in economic, environmental, and social dimensions. It means banking, taking into account the social and environmental impacts and its main motive is to protect and preserve environment. According to Indian Banks Association (IBA, 2014) “Green Bank is like a normal bank, which considers all the social and environmental / ecological factors with an aim to protect the environment and conserve natural resources”. It is also known as ethical bank or sustainable bank. The concept of Green Banking is attached to Triodos bank (established in 1980) from Dutch origin which started the environmental sustainability in the banking sector from the very first day. In the year 1990 the bank launches ‘Green fund’ for funding green environment friendly projects and all other projects follow later (Dash, 2008). Taking example from this bank the banks all over the world start taking green initiatives in the banking sector. Green Banking means promoting environment friendly practices and reducing the carbon footprint from the banking activities. Institute for Development and Research in Banking Technology defines Green Banking as ‘Green Banking is an umbrella term referring to practices and guidelines that make banks sustainable in economic, environmental, and social dimensions. It aims to make banking processes and the use of IT and physical infrastructure as efficient and effective as possible, with zero or minimal impact on the environment’ (Institute for Development and Research in Banking Technology, 2013). Therefore, Green Banking adopting environment friendly practices at every levels of the banking organizations and also considering the environmental aspect in discharging banking functions.

## **Environment Sustainability**

The design and provision of products and services that incorporate and promote waste minimization and the efficient and effective use and re-use of resources. Its aim is to protect the environment for the benefit of current and future generations. It is all about meeting needs and seeking a balance

between people, the environment and the economy. According to the United Nations, sustainable development meets the needs of the present without compromising the ability of future generations to meet their own needs (IDBRT, 2013).

### **Review of Literature**

According to RBI, Green Banking is to make internal bank processes, physical infrastructure and IT infrastructure as effective and efficient as possible, with zero or minimal impact on the environment. They had introduced green rating standards for Indian banks, which are termed as ‘Green Coin Ratings’ Under this rating system, banks are judged on the basis of carbon emissions from their operations and on the amount of recycling, refurbishment and reuse material being used in their building furnishings and in the systems used by them like servers, computers, printers, networks, etc. They are also being judged on the amount of green projects finance by them and rewards or recognitions given to borrowers for turning their businesses greener (IRDBT, 2014). Babu and Venkatramaraju (2011) have suggested the factors for promoting eco-friendly products and services viz. educating the customers through green advertising campaigns, participation of customers through environment-friendly action, providing genuine products and lastly, green penetration. Bhanagade (2011) propounded some of the competitive challenges for banking as profitability, technology in banking, risk management, rural and social banking issues, human resource management, corporate governance, transparency and disclosures, etc. ‘Think global and act local’ is the way forward according to him. Ginovsky (2009) had emphasized that in order to implement ecofriendly practices, banks should launch new banking products which promote the sustainable practices and also need to restructure their back office operations. Stewart (2008) did the study on PNC Financial Services, Pittsburgh. He suggested measures for green banking practices. Ginovsky (2009) in his study on Alpine Bank discussed about green buildings and renovations to existing branches to implement ecofriendly practices. He had suggested some aspects of green branch that were solar electric system, use of wind energy, larger windows to allow natural light, interior lighting systems with sensors, recycled material for the construction of furniture, carpeting, insulation and tile flooring, use of low emitting paints and cleaning materials.

Khawaspatil and More, (2013), opined that in-spite of a lot of opportunity in Green Banking and RBI notifications, Indian banks are far behind in implementation of Green Banking. Only few banks have initiated in this

regard. There is a lot of scope for all banks and they can not only save our earth but also transform the whole world towards energy consciousness. Banks must educate their customers about Green Banking and adopt all strategies to save earth and build bank's image.

### **Reserve Bank Guidelines for Green Banking**

Reserve Bank of India (RBI), on December 2007, issued a circular (RBI 2007-2008/216) highlighting the importance of banks to act responsibly and contribute to sustainable development and emphasizing the need for Indian banks to establish institutional mechanisms to enshrine sustainability.

RBI has suggested that Green Banking could be practiced at two levels

1. Greening processes, products and services and strategies and other.
2. Greening infrastructure.

#### **1. Green Processes**

Banks must see that each of its functional units and activities to be green – environment friendly and help to improve environmental sustainability. The important are:

- Adopt techniques and plans to minimize inventory and wasted freight.
- Adopt networked design using a carbon footprint.
- Facilitate paperless transactions.
- Adopt techniques for workforce and parts optimization as well as intelligent device management.
- Use electronic means, wherever possible, to maintain contact with and correspond with customers and potential customers, and minimize paper-based correspondences.
- Select vendors by the sustainability rating of their products, services and operations.
- Design and offer banking products and services in such a way that consume less resources and energy and thereby reduce carbon footprint.

#### **Green Product and Services**

- Electronic and telephone banking, facilitating customers to perform most of their banking needs anytime, anywhere.
- Automatic payments reduce the need to write and send cheques by mail.
- Electronic (paperless) statements, product information, guides and annual reports to customers and stakeholders.

- Offering and promoting mutual funds that focus investment in ‘green’ companies.
- Offering a special line of credit to help home owners invest in energy-efficiency upgrades for their home.
- Offering credit cards co-branded with environmental charities.

### **Green Banking Strategies**

- To engage with key stakeholders and create awareness of environmental issues and their impact on the economy, the environment, and the society.
- Conduct energy audits and review equipment purchases and disposal policies and practices.
- Assess IT’s environmental and cost impact and identify areas to be “greened” Set SMART (Specific, Measurable, Attainable, Realistic, and Timely) green goals as the internal targets to reduce your carbon footprint along with timelines.
- Develop criteria for measuring progress towards the goals.
- Develop and implement a green policy that aims to achieve higher utilization of systems while reducing energy use and lessening their environmental impact.
- Encourage, motivate, and energize the workforce to follow the green path and to come up with and implement their own ideas.
- In addition, also encourage clients, suppliers, and outsourcers to adopt green practices.
- Monitor the progress regularly; watch industry trends and new developments.
- Revise the green policy as required, publicize environmental policy, actions, and achievements and thereby get credits and accolades from customers, peers, industry groups, environmental advocates, government agencies, and society at large.
- Banks may formulate innovative financial solutions and redesign the existing ones so as to incorporate environmental perspectives.
- Banks may provide loans with concessions to corporates or individuals who undertake environment-friendly projects such as projects employing sun, wind equipment, manufacturers of fuel-efficient automobiles.

- Banks can introduce green funds for customers who would like to invest in environment-friendly projects.
- Banks can involve themselves in carbon credit business, wherein they can provide all the services in the area of clean development mechanisms and carbon credit business.

## **2. Greening Infrastructure**

The following are the guidelines with connected to greening infrastructure including physical and information technology:

- Reduce the brightness of the monitor to the appropriate level. A brighter screen consumes more energy.
- Building designed according to trees on site for preserving more trees and integrating them into the design.
- Good interior design for better daylight penetration.
- Building plans and windows designed for cross ventilation.
- Efficient air conditioning and heating systems.
- Reduction in water usage.
- Highly reflective roofing materials.
- Preserving and protecting landscape during construction.
- Banks can start harnessing renewable energy for satisfying their own energy requirement by installing roof top solar panels/collectors.
- Banks can support projects ranging from community clean ups to national initiatives on climate change, water, air, biodiversity and more.
- Drawing the above guidelines, opportunities and options, banks need to set their near-term and long-term green goals, develop their green strategies, and execute their greening activities in a phased manner.

### **Green Banking Initiatives Taken-up by State Bank of India**

- SBI had launched Green Channel Counter (GCC) facility at their branches in 2010 to change the traditional way of paper based banking. The Bank had launched 'Green Channel Counter'(GCC) facility on State Bank Day (01.07.2010), at 57 select branches of the Bank spread across the country. This is a pioneering concept which would save both paper and time resources. It enhances customer ease as there is no need to remember the 11 digit account number or carry passbook, fill in pay in slips /

withdrawal forms, etc. Only the ATM cum Debit Card and PIN is needed to identify a customer and his / her Bank Account (SBI, 2014).

- Wind based power projects have been set up with the collaboration of Suzlon Energy Ltd for the generation of wind power for selected branches in Gujrat, Tamil Nadu and Maharastra (Business Standard, 2014).
- Installation of Solar ATMs across semi-urban and rural India. A conventional ATM consumes about 1,000 watt of power and requires an air-conditioned environment—another 1,500 watt—for functioning. Thus, consuming about 1,800 units of power a month. As against this, solar-powered ATMs consume less than 100 watt and do not require air conditioning, consuming less than 72 units per month. This indicates a saving of 1,728 units per month and around Rs 1.20 lakh a year (at a conservative commercial rate of Rs 6 per unit) (Business standard, 2014).
- Bank provides project loans at concessionary rate of interest to encourage reduction of greenhouse gases by adopting efficient manufacturing practices.
- It has become a signatory to the Carbon Disclosure Project in which they undertake various environmentally and socially sustainable initiatives through its branches spread across the length and breadth of the country (WWF-INDIA, 2014).
- The Bank has put in place SMART i.e. Specific, Measurable, Achievable, Realistic and Time bound Green Banking Goals, some of which are obtaining star rating at all Local Head offices' premises from Bureau of Energy Efficiency, construction of 'Green' buildings, waste water treatment, programs to sensitize staff on energy savings.
- The Bank's operations generate very minimal emissions/ waste and hence, the quantity of emissions/wastes generated by the bank in the reporting period was far below the permissible limits given by the Pollution Control Board. The Bank didn't receive any show cause/legal notice by Pollution Control Board during the FY 2013-14.
- Export Import Bank of India (EXIM) and SBI entered into an agreement to jointly provide long term loans up to 14 years to Spain based company Astonfield Renewable Resources and Grupo T-Solar Global SA for building solar plant in India.

## Conclusion

In order to have a sustainable development of our nation Green Banking concept is really a pro active step initiated by the banking industry and also an integral part of corporate responsibility. Though there are inconveniences both to the bankers and customers, still it is a need of the hour to protect our globe from the dangers of climate change. 'Green Banking' concept and guidelines of RBI are to be practiced by all the financial institutions so that they can protect our planet from the dangers of pollutions and allow the future generations to live with minimum risks. Green Banking reduces the use of paper which means less cutting of trees. It is an initiative to do an environment friendly business practice.

## References

- Babu Suresh, R. and Venkatramaraju, D. (2011). Focusing on the Environment - A Key Role of Greener Advertising, *Advertising Express*, 19-24.
- Bhanagade, B. D. (2011). Globalization and Indian Banking: Issues, Challenges and Strategies, *Economic Challenger*, 52 (13): 15-20.
- Bihari, S. C. (2011). Green Banking-Socially Responsible Banking in India, *Indian Banker*, 6 (1): 32-37.
- Dash, R. N. (2008). Sustainable 'Green' Banking: The Story of Triodos Bank. Cab Calling. October- December 2008. 26-29.
- Ginovsky, J. (2009). Green banking - Inside and out. *Community Banker*, 30-32.
- Indian Banks Association. (2014, 03 3). Green Banking Innovations; Indian Banks' Association. Retrieved from The Indian Banker: [http://www.theindianbanker.co.in/html/sto\\_5.htm](http://www.theindianbanker.co.in/html/sto_5.htm). Accessed on 10 December 2014.
- Institute for development and research in banking technology (IDBRT) (2013). Green Banking. Accessed 09 December, 2014 at [www.idrbt.ac.in/.../Green % 20 Banking % 20 Frame work % 20 \(2013\).pdf](http://www.idrbt.ac.in/.../Green%20Banking%20Frame%20work%20(2013).pdf) .
- Reserve Bank of India. Circular on Implementation of Green Banking Initiative. [Online] Available at [http://www.rbi.org.in/scripts/Notification User.aspx?Id=6783&Mode=0](http://www.rbi.org.in/scripts/NotificationUser.aspx?Id=6783&Mode=0) Accessed on 17 December 2014.
- Schultz, C. (2010). Covering Eco-friendly Banking, Accessed 10 December, 2014 at <http://greenbankreport.com/green-bankdeals/what-is-the-meaning-of-green-banking>.

---

## Employee Health and Welfare - A Pathway to Organizational Success

**Rakesh Kiran Tauro<sup>1</sup>, Krishna<sup>2</sup>**

HR and Administration Executive  
Gulf Worldwide Distribution, Dubai.

<sup>2</sup>Assistant Professor, P G Dept of Social Work,  
Center for Post Graduate Studies and Research,  
St Philomena College, Puttur, India  
Krishnamsw91@gmail.com

**Abstract:** *This article focuses on the health and welfare provisions and its importance and influence on the development of both the employee and the organization.*

*In the present global industrial scenario, for any industry to be successful, it is essential to inculcate effective provision of health and welfare measures to employees. Any organization would become dynamic and growth oriented if the employees are motivated to perform better, feel better, and feel comfortable in the place of work. Organization cannot survive beyond a point unless these are continuously alert to the changing environment and continuously prepare their employees to meet the challenges and have an impact on environment as the welfare facility and health conditions are related to environment, providing these facilities will have a lot of impact on their performance and productivity. The term "health" is a positive and dynamic concept and implies more than an absence of illness. Health is a state of complete physical, mental and social well-being and not merely the absence of disease (WHO). Medical care and health facilities for industrial workers form an integral part of labour welfare programmes in all the countries of the world. Health measures should be strictly followed to provide conducive working conditions to the employees at place of work. The various welfare measures provided by the employer will have immediate impact on the health, physical and mental efficiency alertness, morale and overall efficiency of the worker and thereby contributing to the higher productivity.*

*Hence this paper examines the different types of health facilities provided in the organization and awareness of the employees on the same, employee perception on various health provisions, its impact and significance on employee performance and growth of the organization with reference to five star hotels in, Mangalore. The population for the study consists of employees from one of the five star hotels in Mangalore and 50 respondents were taken for the study through systematic random sampling. The study has revealed that health and welfare measures results in high employee performance, contribute towards growth of the business, increase*

*employee morale and motivation and organization can retain and attract the talented employees.*

**Key words:** *Health welfare and provisions, satisfaction, performance and productivity*

### **Introduction**

The concept of labour health and welfare are flexible and widely differs with respect to time, region, industry, country, social value and customs, degree of industrialization the general socio economic development of the people and political ideologies prevailing during a particular time frame. It is also, molded according to the age group, sex, socio-cultural background, economic status and educational level of workers in various industries. Accordingly, the concept cannot be very precisely defined.

However, the Committee on Labour Welfare (1969) defined the phrase to mean, "Such facilities and amenities as adequate canteens, rest and recreation facilities, sanitary and medical facilities arrangements for travel to and from and for accommodation of workers employed at a distance from their homes, and such other services, amenities and facilities including social security measures as contribute to conditions under which workers are employed."

"Labour or employee welfare is a comprehensive term including various services, benefits and facilities offered to employees by the employer" (Rao, V.S.P. - 2005).

The committee on Labour Welfare in its 1969 report defines Labour Welfare as "social security measures that contribute to improve the condition under which workers are employed in India and health is a general state of physical, mental and emotional well being."

Welfare means faring or doing well. It is a comprehensive term, and refers to the physical, mental and emotional well-being of an individual. Further, the term welfare is a relative concept, relative in time and space. It, therefore, varies from time to time, from region to region and from country to country (Richard Regis, 2008)

Way back in 1931 the Royal Commission on Labour stressed the need of labour welfare primarily because of the harsh treatment meted out to the workers. This need was further emphasized in independent India by the Constitution, (1950) which lays down the following articles in this regard: "Article 42: The State shall make provision for securing just and humane conditions of work....." Discussing the importance of the labour welfare S.T. Edwards (1953) said: "One can buy a man's time, his physical presence

at a particular space, even a few muscular movements, but enthusiasm, initiative, loyalty and devotion to duty cannot be bought. They will have to be created through right employer-employee relations, provision of constructive opportunities for satisfying the major motivating desires of human action. "The basic purpose of employee welfare is to enrich the life of employees and to keep them happy and contented. Welfare measures may be both statutory and non statutory laws require the employer to extend certain benefits to employees in addition to wages or salaries. Organizations provide welfare facilities to their employees to keep their motivation levels high. The employee welfare schemes can be classified into two categories viz. statutory and non-statutory welfare schemes. The statutory schemes are those schemes that are compulsory to provide by an organization as compliance to the laws governing employee health and safety, these include: canteen facilities, drinking water, proper and sufficient lighting, facilities for sitting, changing rooms, first aid appliances, latrines and urinals, washing places, spittoons, rest rooms. Non statutory welfare schemes may include: personal health care, flexi-time, employee assistance programs, harassment policy, employee referral scheme, medi-claim insurance scheme. The various welfare measures provided by the employer will have immediate impact on the health, physical and mental efficiency alertness, morale and overall efficiency of the worker and thereby contributing to the higher productivity.

As a labor-intensive industry, the hospitality industry is always full of quantity employees and employee issues. The human resource management in hospitality industry should focus more on employees themselves. Many hotels and restaurants deliberately flout occupational health and safety rules which are resulting in increased staff turnover, fines and costly pay-outs to employees. (Lye, 2009). Employee's health and welfare is the key to manage the employees well. There is no reason to ignore employee's health and welfare in working place. This outlook motivated the researcher to make an attempt to study the various health and welfare measures in one of the Five Star Hotels in Mangalore.

### **Review of Literature**

A study conducted by Mohan and Panwar (2013) shows that the retail stores at Udaipur are providing not only intramural facilities but also extramural welfare facilities. It is stretching its hands to provide amenities that may improve health and living standards of the employees. The effective and efficient policies and welfare facilities make the employee to perform the job better, which leads to effectiveness of the organization.

Research by Health and Safety executive (2004a) in 19 case study organizations such as Astrazeneca, SevernTrent Water and Transco etc, established that the tangible benefits from better health and safety and management include higher productivity, lower absence, avoiding the cost of accidents and litigation, meeting client demands and improved staff morale and employee relation.

Logasakthi and Rajagopal (2013) in their study revealed that employees enjoy not only the satisfaction of their jobs but also various facilities given by the firms. The labourers extend their maximum support for the improvement of the company. The personal department takes care of the total human resources in the company. The Management provides all the health safety and welfares to the employees that will help to produce better performance in the work and working environment.

Report of National Commission on Labour (2002), Government of India, made recommendations in the area of labour welfare measures which include social security, extending the application of the Provident Fund, Gratuity and Unemployment Insurance etc.

Ronald C Politnikoff (2009) conducted a research on relationship between workplace environment and physical activity and the results show positive relationship.

V. V. Giri National Labour Institute(1999-2000), a fully funded autonomous body of the Ministry of Labour has conducted action-oriented research and provides training to grass root level workers in the Trade Union Movement, both in the urban and rural areas, and also to officers dealing with industrial relations, personal management, labour welfare, etc.

Webb (1989) also studied a workstation change and found out an increase of 1000% in productivity within less than three months. These changes are mechanical and physical, for example a change of postures to reduce physical strain of work and use of appropriate machinery for some tasks. Improving the fit between humans and tools inherently means a more effective match, good design permits more output with less human effort (MacLeod, 1995). Improving the quality of the workplace environment promotes productivity and companies need to undertake occupational Health and Safety practices that achieve this.

Gunnar Aronsson (2010) found out in his study physical environment and employee health, a remarkable improvement of employee performance.

In the view of K.K. Chaudhuri, in his “Human Resources: A Relook to the Workplace”, states that HR policies are being made flexible. From leaves to compensations, perks to office facilities, many companies are willing to customize policies to suit different employee segments.

Business and Market (2009) analyzed that the “welfare” is a broad concept referring to a state of living of an individual or group, in a desirable relationship with the total environment - ecological, economic and social.

Gerald (2010) conducted a study on the organizational benefits of investing in work place health and the results show positive behavior from employees.

Conventions and Recommendations of ILO (1949) sets forth a fundamental principle at its 26th conference held in Philadelphia recommended some of the measures in the area of welfare measures which include adequate protection for life and health of workers in all occupations, provision for child welfare and maternity protection, provision of adequate nutrition, housing and facilities for recreation and culture, the assurance of equality of educational and vocational opportunity etc.

P.L. Rao, in his “Labour Legislation in the Making”, opines that professional bodies like National Institute of Personnel Management should constitute a standing Committee to monitor the proceedings in the Parliament regarding the labour welfare measures.

### **Methodology**

The research design used for the study was descriptive in nature. The universe of this study consisted of all the employees in one of the five star hotels in Mangalore and 50 respondents were selected for the study through systematic random sampling technique. The questionnaire was distributed to all the respondents by the researcher.

### **Results and Discussions**

#### **Profile of the respondents**

Total number of respondents of the study is 50. Among them majority of the respondents belonged to the age group of 21-30 years and 80% of the respondents are male employees. 20 respondents are graduates and majority 44% of the respondents are having below 5 years of work experience.

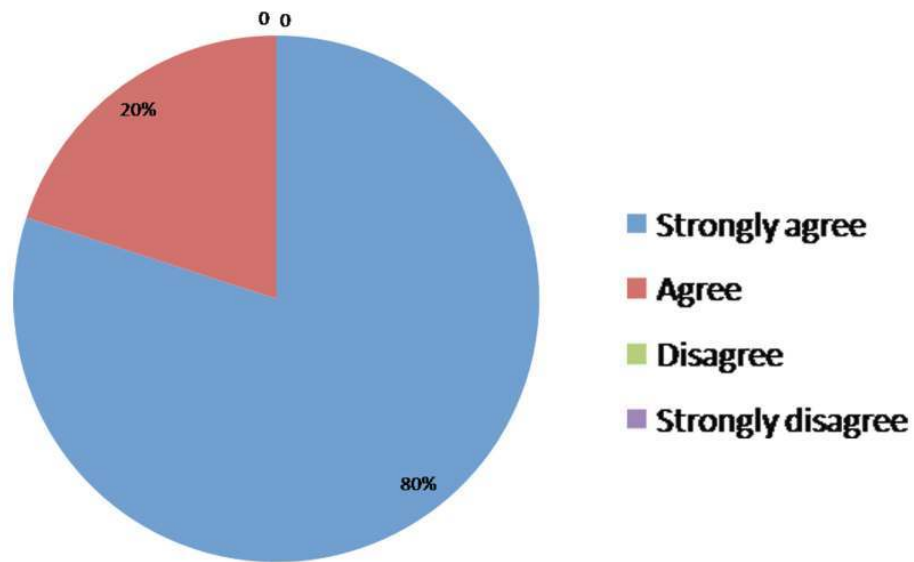
**Table 1: Awareness on health and welfare measures.**

Sl. No.	Variables	Frequency	Percentage
1	Yes	50	100
2	No	0	0
<b>Total</b>		<b>50</b>	<b>100</b>

The above table shows that 50 (100%) respondents have said they are aware of health and welfare measures provided by the organization.

The above table interprets that all the respondents are aware about the health and welfare measures provided in their organization.

**Figure 1: Health and welfare measures and employee performance.**



The above figure shows that 40(80%) respondents have strongly agreed that high employee performance results from better health and welfare measures offered by the organisation, whereas 10 (20%) respondents have agreed and none of them have disagreed and strongly disagreed.

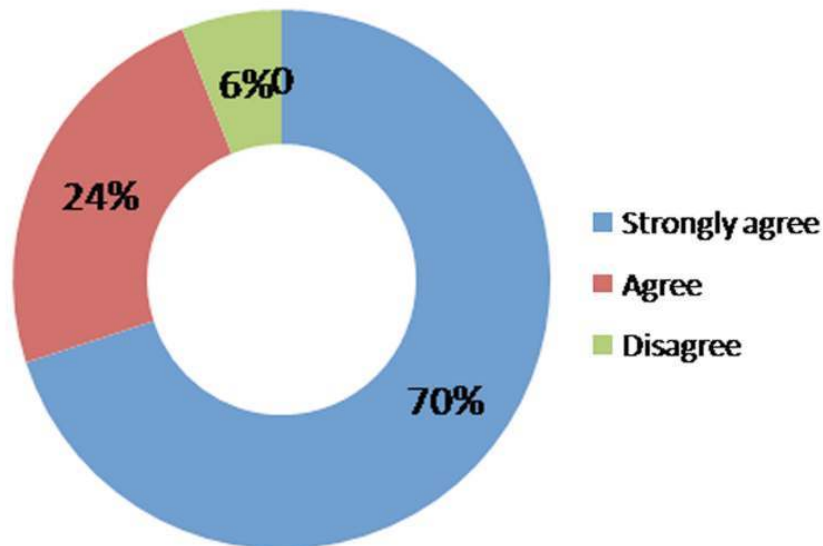
**Table: 2 Health and welfare measures contribute towards the growth of the business.**

Sl. No.	Variables	Frequency	Percentage
1	Strongly agree	38	76
2	Agree	12	24
3	Disagree	0	0
4	Strongly disagree	0	0
	<b>Total</b>	<b>50</b>	<b>100</b>

The above table discloses that, 38 (76%) respondents strongly agreed that health and welfare measures contribute towards the growth of the business, whereas 12 (24%) respondents agreed and none of them disagreed and strongly disagreed with the above statement.

The above analysis indicates that majority (38 (76%) of the respondents agreed that health and welfare measures contribute towards the growth of the business.

**Figure 2: Health and welfare measures increase employee's motivation and morale.**



The above figure demonstrates that, 35 (70%) respondents strongly agreed that health and welfare measures increase employee's motivation and morale in the organization, 12 (24%) respondents agreed, 3 (6%) respondents disagreed and none of them strongly disagreed with the above statement.

The above data clearly indicates that majority (35 (70%) of the respondents agreed that health and welfare measures increase employee's motivation and morale in the organisation.

**Table 3: Health and welfare measures help organisation to retain the talented employees.**

Sl. No.	Variables	Frequency	Percentage
1	Strongly agree	37	74
2	Agree	13	26
3	Disagree	0	0
4	Strongly disagree	0	0
<b>Total</b>		<b>50</b>	<b>100</b>

The above table shows that, 37 (74%) of respondents strongly agreed with the opinion that health and welfare measures help to retain talented employees, 13 (26%) respondents agreed none of them disagreed and strongly disagreed with the above opinion.

From the above data the researcher found that the majority (37 (74%) of the respondents strongly agreed that through health and welfare measures organisation can retain the talented employees.

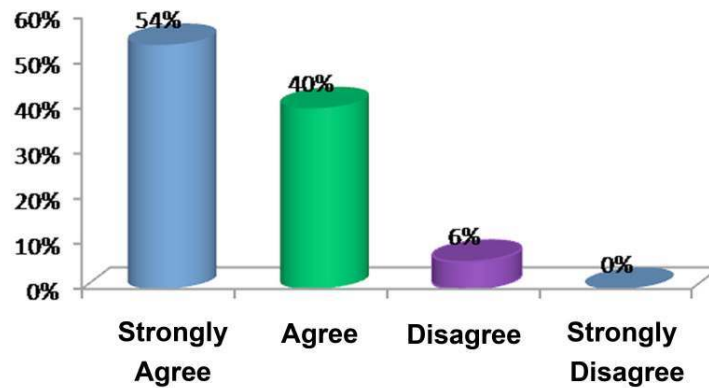
**Table 4: Health and welfare measures reduce labour turn over.**

Sl. No.	Variables	Frequency	Percentage
1	Strongly agree	23	46
2	Agree	27	54
3	Disagree	0	0
4	Strongly disagree	0	0
<b>Total</b>		<b>50</b>	<b>100</b>

The above table shows that, 23 (46%) respondents strongly agreed that health and welfare measures reduce labour turnover, 27 (54%) respondents agreed, none of the respondents disagreed and strongly disagreed with this.

The above data clearly indicates that majority (27 (54%) of the respondents agreed that health and welfare measures reduce labour turn over in the organisation.

**Figure 3: Health and welfare measures help to remove industrial fatigue.**



The above figure depicts that, 27 (54%) respondents strongly agreed that welfare measures help to remove industrial fatigue, 20 (40%) respondents agreed, 3 (6%) respondents disagreed and none of them have strongly disagreed with the statement.

The above data clearly indicates that majority (27 (54%) of the respondents agreed that welfare measures help to remove industrial fatigue.

**Table 5: Health and welfare measures help to increase better employee-management relationship.**

Sl. No.	Variables	Frequency	Percentage
1	Strongly agree	28	56
2	Agree	22	44
3	Disagree	0	0
4	Strongly disagree	0	0
	<b>Total</b>	<b>50</b>	<b>100</b>

The above table shows, 23 (56%) respondents strongly agreed that health and welfare measures increase better employee-management relationship in the organization, 22 (44%) respondents agreed, none of them disagreed and strongly disagreed with this.

The above data clearly indicates that majority (23 (56%) of the respondents agreed that the welfare measures increase better employee-management relationship in the organisation.

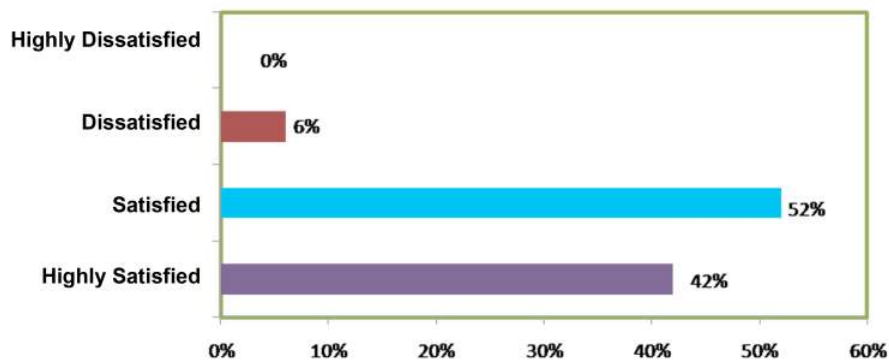
**Table 6: Health and welfare measures help to attract suitable and competent employees.**

Sl. No.	Variables	Frequency	Percentage
1	Strongly agree	30	60
2	Agree	20	40
3	Disagree	0	0
4	Strongly disagree	0	0
<b>Total</b>		<b>50</b>	<b>100</b>

The above table shows, 30 (60%) respondents strongly agreed that a health and welfare measure helps to attract suitable and competent employees, 20(40%) respondents agreed, none of them disagreed and strongly disagreed with the statement.

The above data clearly indicates that majority (30 (60%) of the respondents agreed that health and welfare measures help to attract suitable and competent employees.

**Figure 4: Canteen facility.**



The above diagram shows that, 21 (42%) respondents are highly satisfied with canteen facilities provided in the organization, 26 (52%) respondents are satisfied; 3 (6%) respondents are dissatisfied and none of them highly dissatisfied.

The above data clearly indicates that majority (26 (52%)) of the respondents are satisfied with canteen facility provided in the organisation.

**Table 7: Transport facility.**

---

<b>Sl. No.</b>	<b>Variables</b>	<b>Frequency</b>	<b>Percentage</b>
1	Highly Satisfied	34	68
2	Satisfied	16	32
3	Dissatisfied	0	0
4	Highly Dissatisfied	0	0
	<b>Total</b>	<b>50</b>	<b>100</b>

---

The above table shows that, 34 (68%) respondents are highly satisfied with transport facilities provided by the organization, 16 (32%) respondents are satisfied; none of them are dissatisfied and highly dissatisfied.

The above data clearly indicates that majority (34 (68%)) of the respondents are highly satisfied with transport facilities provided in the organisation.

**Table 8: Drinking water facility.**

---

<b>Sl. No.</b>	<b>Variables</b>	<b>Frequency</b>	<b>Percentage</b>
1	Highly Satisfied	28	56
2	Satisfied	19	38
3	Dissatisfied	3	6
4	Highly Dissatisfied	0	0
	<b>Total</b>	<b>50</b>	<b>100</b>

---

The above table shows that 28 (56%) respondents are highly satisfied with drinking water provided in the organization, 19 (38%) respondents are satisfied; 3 (6%) respondents are dissatisfied and none the respondents are highly dissatisfied.

The above data clearly indicates that majority (28 (56%) of the respondents are highly satisfied with drinking facility provided in the organisation.

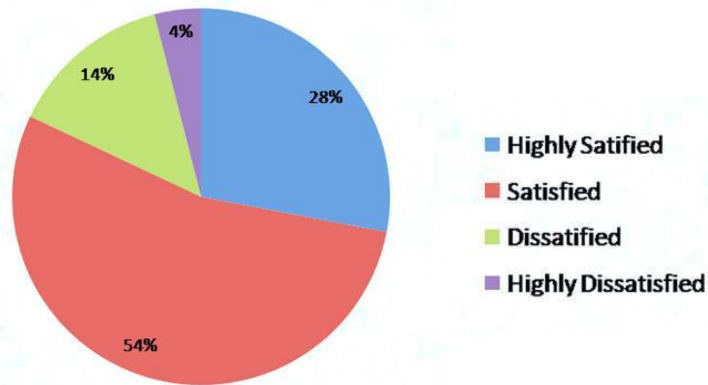
**Table 9: Housing facility.**

Sl. No.	Variables	Frequency	Percentage
1	Highly Satisfied	24	48
2	Satisfied	22	44
3	Dissatisfied	4	8
4	Highly Dissatisfied	0	0
<b>Total</b>		<b>50</b>	<b>100</b>

The above table shows that 24 (48%) respondents are highly satisfied with housing facility provided by the organization, 22 (44%) respondents are satisfied, 4 (8%) respondents are dissatisfied and none of them were highly dissatisfied.

The above data clearly indicate that majority (24 (48%) of the respondents are highly satisfied with housing facility provided by the organisation.

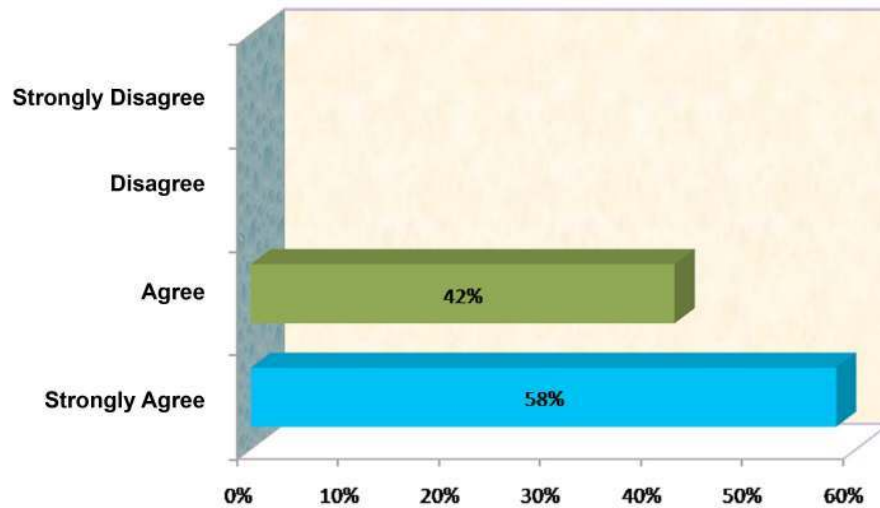
**Figure 5: Recreation facility**



The above figure shows that, 14 (28%) respondents are highly satisfied with recreation facility provided by the organization, 27(54%) respondents are satisfied; 7 (14%) respondents are dissatisfied and 2 (4%) respondents are highly dissatisfied.

The above data clearly indicate that majority (27 (54%) of the respondents are satisfied with recreation facility provided by the organisation.

**Figure 6: social and cultural activities being practiced at the organisation help to improve interpersonal relation with superiors, colleagues and subordinates.**



The above table and diagram show that, 29 (58%) respondents have strongly agreed that social and cultural activities help to improve interpersonal relation with superiors, colleagues and subordinates in the organization, 21 (42%) respondents agreed none of respondents disagreed and strongly disagreed with the statement.

The above data clearly indicate that majority (29 (58%) of the respondents agreed that social and cultural activities help to improve interpersonal relation with superiors, colleagues and subordinates in the organisation.

**Table 10: Need for further improvement in welfare measures in the organization.**

Sl. No.	Variables	Frequency	Percentage
1	Yes	50	100
2	No	0	0
	<b>Total</b>	<b>50</b>	<b>100</b>

The above table shows that, 50 (100%) respondents have said that there is a need for further improvement in health and welfare measures in the organisation.

From the above data the researcher found that all (50 (100%) the respondents felt the need for further improvement in welfare measures in the organization.

### **Suggestions**

Based on the findings and experience gathered from the present study the following suggestions can be made:

1. The organization should communicate health and welfare facilities available in the organization to all the employees at the time of induction itself.
2. By providing outstanding health and welfare provisions organization can retain and attract talented employees.
3. The organisation should make some changes and improvement in the existing recreation facility by providing room for Table tennis, Chess, Carom etc.
4. Separate recreation room should be provided for male and female employees.
5. All the employees should go through the medical check-up at least once in a year.
6. First aid facility should always be available in the organization at the time of accidents.
7. The organization should give more importance to loan and advance facility to the employees in order to meet their emergency.
8. Accommodation facility for bachelors should be provided with full-fledged kitchen facility.
9. Transport facility, should be provided to all those who are working in different shifts.
10. There is a need to improve the drinking water facility. The drinking water should not be either too cold or too hot to drink.
11. Organization should re-examine and revise its health and welfare schemes in regular intervals in order to make it fit for the present circumstances.

## Conclusion

The health and welfare is a very important aspect in an industry. No organisation can ever think of not providing welfare facilities or do away with existing welfare facilities. The various laws emphasise on the welfare of the employees, that is though giving importance to welfare of the employee and health aspect of the employees. Welfare services are something beyond the reciprocal compensation that is paid for the services rendered by labour. The quality of a company's welfare facilities determine and enhance its image as a caring employer. Employee health and welfare facilities have proven to be an excellent tool for the employee retention and improving of organization's bottom line.

## References:

- Ashwathappa, R. (2005). *Human Resource Management*, Tata McGraw Hill Education.
- Goswami, V. G (2011). *Labour and industrial laws set 2 vols*, Central Law Agency.
- Joseph, B., Joseph, I. and Varghese, R. (2009). Labour Welfare in India, *Journal of Workplace Behavioural Health*, 24 (1, 2): 221-242.
- Kumar, H. L. (2013). *Labour Laws-Everybody should know*, Universal Law Publishing Co. Pvt. Ltd.
- Kapoor, N. D. (2011). *Hand Book industrial Laws*, Sultan Chand and Sons.
- Logasakthi, K. and Rajagopal, K. (2013). A study on employee health, safety and welfare measures of chemical industry in the view of salem region. *International journal of research in business management*, 1: 1-10.
- Mishra, S. N. (2013). *Labour and Industrial Laws*, Jain Book Depot.
- Michael Armstrong. (2006). *A Handbook of Human Resource Management*, Kogan Page Publishers.
- Mohan Reenu and Panwar, J. S. (2013). Current trends in employee welfare schemes in Udaipur Retail Sector. *International Journal of Scientific Research Review*, 2: 45-54.
- Poonam Salaria, Sumit Salaria (2013). Employee welfare measures in Auto sector. *International Journal of Business and Management Invention*, 2: 66-74.
- Rao, V. S. P. (2005). *Human Resource Management-Text and Cases*, Excell Books.

- Ram Reddy, R. (1990). *Industrial Relation in India*, Mittal Publication.
- Reddy, R. J. (2004). *Labour Welfare and Personnel Service*, APH Publishing.
- Singh, B. D. (2007). *Labour Laws for Managers*, Excel Books New Delhi.
- Sharma, A. M. (2011). *Aspects of labour welfare and Social Security*, Himalaya Publishing House.
- Venugopal, P., Bhaskar, T., Usha, P. (2011). Employee welfare activities with respective measures in industrial sector - a study on industrial cluster at Chittor district. *International journal of research in commerce, IT and management*, 1: 78-84.

---

## **Socio Economic Status and Working Conditions of Women Beedi Workers and The Need for Social Protection**

**P M Mathew**

Faculty,  
Dept of Social Work,  
Central University of Kerala  
pmmathew28@gmail.com

**Abstract:** *The beedi industry is one of the biggest among the unorganized sectors spread all over India, employing a large number of women. The occupational life of Beedi workers are characterized by low wages, piece rated remuneration, lack of social security and absence of organization. The majority are home based women workers who live under the poverty line. The beedi rolling is generally done by poor women in backward areas where the workers have usually no other means of sustainable employment.*

*The aim of the present study is to understand the socio-economic status, working conditions and health status of women beedi workers and their social protection. A study was conducted by selecting 40 women beedi workers in Bedadukka Panchayat, Kasargod district, Kerala state. The research design used for this study is descriptive. A structured interview schedule was used to elicit the data. The result of the study reveals that all the women beedi workers had involved in this job due to poverty and lack of social protection. Women beedi rollers who start their profession at a very early stage of life are exposed to tobacco dust for approximately 7 to 9 hours each day. They roll 600 to 1000 beedi a day. And their monthly income from beedi rolling is Rs. 2000 to Rs. 4000. The main occupation of these women is beedi rolling. Majority of the women have health problems like head ache, back pain, shoulder and neck pain, allergy, eye allergy, respiratory problem and also psychological problems like lack of sleep, anxiety and insecure feelings. Social protection is to be ensured to reduce poverty and vulnerability by promoting efficient labour markets, diminishing beedi workers' exposure to risks and enhancing their capacity to manage economic and social risks, such as low wages and illness.*

**Key words:** *Beedi workers, socio economic, working, social protection*

### **Introduction**

A beedi is a thin South Asian cigarette made of 0.2-0.3 g of tobacco flake wrapped in a tendu (*Diospyros melanoxylon*) leaf and secured with coloured thread at both ends. As it is a cheap form of tobacco consumption, it is

extremely popular among the non-affluent but it carries greater health risks as it delivers more nicotine, carbon monoxide and tar than conventional cigarettes. Beedi manufacturing takes place in almost all the major states of India such as in Madhya Pradesh, Maharashtra, Gujarat, Tamil Nadu, Andhra Pradesh, West Bengal, Orissa, Uttar Pradesh, Rajasthan, Bihar, Kerala and Karnataka.

The first formal production of beedis started in 1902, although the rural people were known to have made beedis for their own consumption much before this date. Presently, India is the third largest tobacco producer in the world. The government estimates about 4.4 million workers in the beedi rolling industry, majority of them are home based women workers. Tobacco cultivation processing and marketing involves over 30 million people in India.

The beedi industry is generally located in the unorganized sector. The beedi manufacturers have increasingly shifted the work from factories into the households, small unincorporated units or into small work sheds. Currently, while there are some major beedi manufacturers with large enterprises these constitute only about 10 percent of all beedi manufacturing. Typically large manufacturers contract out the work of rolling beedis to contractors who then either sub-contract work out further and/or get the work done by individuals in their homes on a piece rate system. The production is therefore widely dispersed. It is difficult to establish an employer-employee relationship as set out under the labour law since beedi production is undertaken through a chain of contractors and sub-contractors and also through a sale-purchase system which makes the beedi workers self employed.

Beedi production is very labour intensive. The four main steps involved in the production of a beedi are (i) rewinding the thread (ii) cutting the beedi leaves (iii) rolling the beedi, and (iv) folding the beedi head. It takes about 30 minutes to an hour to rewind a bundle of thread. Cutting the beedi leaves, which is the next step, requires some skill because the maximum number of pieces cut from the leaf depends on the skill of the worker. Rolling the beedi leaf with tobacco is the main job in the process-tobacco is to be rolled in the leaf and tied with the thread; the pinch of tobacco must be accurate. The folding of the beedi head, which is the final step, the complete beedis are then bundled and sent to the contractor.

The rolled beedis are handed over in bundles to the contractor/middleman. After checking them carefully and deducting for poor quality leaves and other reasons, the payment is made based on a piece rate wage fixed at a per 1000 beedis rate. Even the minimum wage applicable to beedi workers

is fixed at 1000 beedi rolled rate. The Beedi workers are in the clutches of contractors and sub contractors. The contractors are the suppliers of raw materials as well as collectors of the final products. Beedi workers are usually home based workers. The working environment of Beedi workers today as well as in the past, has not been very conducive.

The beedi industry came up in Kerala by 1920s. After World War I, trade connections with Ceylon and Burma helped establish the beedi industry in North Malabar. The Charkha (spinning wheel) brand of beedis riding on the popularity of the nationalist movement and the swadeshi sentiment popularized beedi use. At the time, it was mainly men who were beedi rollers assisted by children in tying the rolled beedis. Beedi workers came from the Muslim and lower caste communities, (Tiyyas/ Ezhavas). In April 1934, the first beedi rollers association was established. Beedi manufacturing in Kerala is typically unorganized in nature and is concentrated in the districts of Kasargod, Kannur, Kozhikode, Palghat and Thrissur. The work shed or working place are often dimly lit rooms but women prefer them because here women are not disturbed by domestic work and can make a large number of beedis.

For every beedi made, a woman has to pick up a pinch of tobacco grains and arrange it on the leaf she holds with her left hand and uses the fingers of her right hand to spread the tobacco. Her fingers thus are in constant touch with the tobacco. Hence a large section of unprivileged women who suffer health hazards not because they are smoking but because they are making beedies. Two factors that cause health hazards are first, the raw materials, especially tobacco and secondly, the nature of work, working conditions and the workplace.

Beedi workers are highly prone to respiratory problems. Most of them suffer from tuberculosis, chronic bronchitis, asthma and so on. The nature of work which involves prolonged sitting with forward trunk bent, the excessive use of fingers and the constant high tension levels to meet targets cause a number of health problems. The sitting posture leads to a static construction of back muscle, resulting in head, neck, leg and back aches as there is no body movement. Workers also suffer from piles and rheumatism (Dharmalingam, 1993). Gopal (1999) highlights the high levels of tension among women beedi workers who are never secure about their status as workers. Their poverty, lack of rest, endless work, poor food habits have all been listed as factors making them susceptible to diseases. Exposure to tobacco and the working conditions among beedi workers are known to have caused intestinal and reproductive problems (Pande, 2001).

Due to the tobacco dust the workers are continuously exposed to, their eyes have burning irritation and also problems like conjunctivitis, rhinitis and mucous dryness are reported (Kannan and Ilango, 1990). Strain on their eyes is worsened among workers who work at night alongside dimly lit oil lamps. Pande (2001) reports that almost all the workers are aware of the health hazards in their work.

Mohandas (1980) made a comprehensive survey of the socio economic conditions of beedi rollers in Kerala. He reported high incidence of occupational diseases owing to exposure to tobacco and postural problems arising out of the monotonous work. Joshi et al. (2013) made an epidemiological survey of occupational health hazards among beedi workers of Amarchinta, Andhra Pradesh and noticed that almost 90 per cent of the workers developed pain in various body parts, the prominent among them being shoulder pain, back pain and neck pain.

The industry employs unskilled labourers and is situated where there is availability of cheap labour. Beedi industry accounts for about 90 percent of the employment of the Indian tobacco industry. Currently, about 10 percent of the beedi manufacturing takes place in the organised factory.

### **Research Methodology**

The main objective of the study was to understand the socio-economic status, working conditions and health status of women beedi workers in Bedadukka Grama Panchayat, Kasargod district, Kerala state. The sample selected through random sampling method comprised of 40 female Beedi workers from 2 units (depot) of Kerala Dinesh Beedi Industries Cooperative Society working in Bedadukka Grama Panchayat, Kasargod district, Kerala state. The two units consist of 68 women beedi workers who have been working there for 20 to 30 years. The research design used for this study is descriptive. A structured interview schedule was used for data collection.

### **Results and Discussion**

The study shows that the age of the respondents ranged from 41 to 50 years. Majority were in the age group of 41 to 45 years. Regarding the education of the respondents, majority (70%) have completed upper primary education and others primary. A vast majority of them (72%) percent) were from nuclear family system. All the respondents are married and a few widows are also doing beedi work.

**Table: 1. Number of Beedis Rolled by Respondents**

SI No	No of Beedi Rolled a Day	Frequency	Percent
1	500	6	15
2	600	20	50
3	700	7	17.5
4	800	7	17.5
	<b>Total</b>	<b>40</b>	<b>100</b>

The above table highlights that fifty per cent of the respondents roll 600 beedis daily and others 500, 700 and 800. This study shows that all the respondents are middle aged women (age ranging from 41 to 50 years). The respondents work 6 days in a week from 9.00 am to 6.00 pm in the beedi depot in Bedadukka. Women beedi rollers who start their profession at a very early stage of life are exposed to tobacco dust for approximately 7 to 9 hours each day. Mookerjee (1984) points out that young workers can roll 1000 beedis in 8 hours, while an aged worker only manages 400-450 a day. An average worker can make 800 beedis in an 8 hour workday (Dharmalingam, 1993).

Results of the study shows that a vast majority (75%) of the respondents were earning Rs. 2000 to Rs. 3000 and others Rs. 3000 to Rs. 4000 per month from beedi rolling. The respondents get wages weekly. The rolled beedis are handed over in bundles to the contractor/middleman. After checking them carefully the payment is made based on a piece rate wage fixed at a per 1000 beedis rate. The piece rate for 1000 beedis is Rs. 190. Even the minimum wage applicable to beedi workers is fixed at 1000 beedi rolled rate. The beedi workers are in the clutches of contractors and sub contractors. As beedi rolling is their main occupation, they cannot meet both their ends with this meagre income. None of them have savings. While they have loans ranging from Rs. 25000 to Rs. 200000. The land holding is 5 to 50 cents. This shows that all the women are from economically backward stratum and they had involved in this job due to poverty. The respondents felt that they could not spend adequate time with their children due to the nature of their job.

Majority of the respondents are having health problems like head ache, back pain, shoulder and neck pain, allergy, high blood pressure, eye allergy, respiratory and also psychological problems like lack of sleep anxiety and insecure feelings. It was observed that the respondents in both depot do not wear protective clothing, gloves or masks, and are exposed to tobacco dust through their skin and by inhaling the harmful particles.

Numbness of the fingers, breathlessness and stomach pains including cramps and gas, have also been reported in beedi rollers (Dikshit and Kanhere 2000; Mittal et al. 2008). Bhisey et al. (2006) recorded that inspirable dust of tobacco in the tobacco factory was associated with chronic bronchitis in workers. All the respondents are aware that smoking is injurious to health. Studies indicate that people working for long hours a day are more vulnerable to frequent occupational health issues.

### **The Need for Social Protection**

The potential of stricter state regulations, increasing health care awareness, reducing the role of middle men as solutions does not take away the larger problem of the survival of this industry itself and the need to proactively search for alternatives in light of this uncertainty. The additional health problems caused by tobacco smoking and tobacco related diseases raises further concern emphasizing the need for diversification of activities and the search for alternative employment to shift the current beedi workforce.

### **Conclusion**

The study recommends that there is a need to improve the living and working conditions as well as to provide decent employment opportunities for women beedi rollers. Women occupied in beedi manufacturing are facing a number of health risks. Longer working hours make frequent instances of occupational health issues more likely. Many of these workers suffer from various health hazards not because they smoke beedis but due to rolling beedis. As women beedi workers are in constant touch with tobacco, the inhalation of the tobacco dust leads to skin problems and to asthmatic troubles. Hence the local organizations may intervene in creating awareness among the women who are engaged in beedi rolling to wear gloves and mask in order to cover their nose and protect their hands from diseases. Periodical health check ups may be conducted by the local self government as the beedi workers are more prone to health hazards.

## **References**

- Bhisey, R.A., Bagwe, A.N., Mahimkar, M.B., Buch, S.C. (2006). Biological monitoring of beedi industry workers occupationally exposed to tobacco. *Indian Journal of Public Health*, 50(4): 231-235.
- Dharmaliagam, A. (1993). Female Beedi Workers in a South Indian-Village, *Economic Political Weekly*, 28: 27-28.
- Dikshit, R.P., Kanhere, S. (2000). Tobacco habits and risk of lung, Oropharyngeal and oral cavity cancer: a population based case control study in Bhopal, *Indian International Journal of Epidemiology*, 29(8): 609-614.
- ILO-Department of Labour, Karnataka (2001). Improving Working Conditions and Employment Opportunities for Women Workers in Beedi Industry, *Beedi Industry Workshop*, 22 and 23 February 2001, Mangalore (Karnataka).
- Madhusudan, M., Patil, D., Jayaram, S. (2014). Occupational Health Profile of Beedi Workers in Coastal Karnataka, *National Journal Community Medicine*, 5(2): 157-160.
- Mittal, S., Mittal, A., and Rengappa, R. (2008). Ocular manifestations in bidi industry workers: Possible consequences of occupational exposure to tobacco dust, *Indian Journal of Ophthalmology*, 56: 319-22.
- Pande Rekha, (2001). Rolling ill health, *Health Action*, 14(8): 2.

---

## **Behavioural Implications in Impoverishment of The Subaltern Sustainable Livelihood Models**

**C P Prince**

Assistant Professor  
P G Dept of Social Work  
St Philomena College, Darbe P.O.  
Puttur, D.K., Karnataka - 574202

**Abstract:** *There are several causative factors of perpetuation of poverty including economic, social, psychological, political, structural, cultural, environmental and physical. Among these the psychological factors particularly behavioural paradigm focus on social psychological reasons influencing the penetration and perpetuation of poverty. As regards the livelihood models of the poor most of them are not sustainable due to the influence of the behavioural structures and patterns of the poor making them circle around the whirlpool of impoverishment. The subaltern culture force them to stick on to such delimiting behaviours whether it is fatalism, idleness, addiction habits, debts, extravagancy, lack of saving, having no future financial plan and a host of others. It is a conceptual paper to analyse the behavioural implications in the perpetuation of poverty and consequently failure in sustainability of livelihood means. Educational illiteracy, growing unemployment, geographical and climatic hit backs add to the menace. The paper calls for studies on prevailing structures and the need for social work intervention in terms of public participation towards social enterprises and social innovations to tackle the unsustainable nature of livelihood models of the poor. Extracts of interview with community leaders are added to support the theoretical framework. Social work methods, particularly community organization must focus upon this area to find suitable remedy.*

**Key words:** *Behavioural implications, impoverishment, subaltern culture, sustainable livelihood*

### **Introduction**

Small scale livelihood initiatives are in fast pace in Indian subcontinent with several successful models. Social mobilization is considered as the mass movement to engage people's participation in a process and is used by the grass-root organizations to achieve a common goal. Social mobilization is the process of bringing together all feasible and practical inter-sectoral allies/partners to raise awareness of and demand for a particular programme, to assist in the delivery of resources and services and to strengthen community participation for sustainability and self-reliance. The 'Poverty Alleviation

Paradigm' is based on the principles of self-help to build sustainable livelihoods and sustainable communities; micro finance is often an integrated part of the strategy for poverty alleviation. However most of them die out in the long run or do not contribute substantially in the poverty alleviation process. In search of the causative factors there could be various strategic and societal elements that work out like a whirlpool making poverty 'sustainable' instead of livelihood 'sustainable'.

### **Poverty and Social Inequality**

According to the World Health Organization (1995), 'The world's most ruthless killer and the greatest cause of suffering on earth is extreme poverty.' This statement emphasises the importance of poverty as a variable adversely influencing health. Poverty is a multidimensional phenomenon, encompassing inability to satisfy basic needs, lack of control over resources, lack of education and poor health. Poverty can be intrinsically alienating and distressing, and of particular concern are the direct and indirect effects of poverty on the development and maintenance of emotional, behavioural and psychiatric problems.

Vijaya Murali et al (2004), observed that the measurement of poverty is based on incomes or consumption levels, and people are considered poor if their consumption or income levels fall below the 'poverty line', which is the minimum level necessary to meet basic needs. It should be emphasised that for the analysis of poverty in a particular country, the World Bank bases the poverty line on the norms for that society.

Poverty and social inequality have direct and indirect effects on the social, mental and physical well-being of an individual. It is important to note that poverty and inequality are closely linked. Wilkinson (1997) believed that income inequality produces psychosocial stress, which leads to deteriorating health and higher mortality over time. However, the association between income inequality and life expectancy is slowly disappearing and is no longer widely accepted. Those who live in deprived communities, where there is under-investment in the social and physical infrastructure, experience poor health, resulting in higher mortality for those of lower socio-economic class. The effects of income inequality also spill over into society, causing stress, frustration and family disruption, which then increase the rates of crime, homicide and violence (Wilkinson, 1996).

As the poverty leads to mental health problems it is also correlated with several other factors that spirally perpetuate poverty and make its victims a perennial problem never ever be able to come out of it.

A study by Sukhdeep et al,(2011) showed that non availability of incentive for group leaders had a demotivating effect which may lead to gradual decline in the efficient functioning of SHGs. Antonio A R (2014) studied the paradox of poverty in rich ecosystem of Amazon. It offers an examination of poverty and development in the Amazon, moving beyond the conventional view which places the blame on infrastructure deficiencies, economic isolation or institutional failures. It examines synergistically connected processes that form the persistent poverty-making geography of the Amazon region. The study concluded that overcoming the imprint of poverty on Amazonian ecosystem entails a radical socio-ecological reaction. Additionally, the multiple and legitimate demands of low-income groups do not start from a state of hopeless destitution, but from a position of strength provided by their interaction with the forest ecosystems and with other comparable groups in the Amazon and elsewhere.

David Mosse (2007) studied on Power and the Durability of Poverty: A Critical Exploration of the Links between Culture, Marginality and Chronic Poverty and concluded that the interlocking circumstances of chronically poor cultivators living in deforested uplands, indebted migrant casual labourers on the urban fringes, and the social identities of adivasis and dalits ('tribals' and 'untouchables') subordinated in Indian society. This both highlights particular spatial and social inequalities in India, and reflects on the cultural construction of power; its effects on material well-being and agency, and on the opportunities and constraints in struggles for political representation.

### **Causality and Perpetuation of Poverty**

There are several theories substantiating the causative factors contributing to the perpetuation of poverty.

The Black Report (Townsend *et al* 1992) highlights various explanations for the existing health inequalities, dividing them into four categories: artifact explanations; theories of natural or social selection; materialist or structuralist explanations; and cultural and behavioural explanations.

### **Artifact Theory**

The artifact theory suggests that both class and health are artificial variables, and that the relationship between them may itself be an artifact. It is believed that the failure to reduce the gap between classes has been counterbalanced by the shrinkage in the relative size of the lower socio-economic classes themselves.

### **Natural Selection**

Theories of natural or social selection relegate occupational class to the status of dependent variable, and health acquires the greater degree of causal significance. This explanation suggests that social class I has the lowest rate of premature mortality because it is made up of the strongest and most robust men and women in the population, and that class V has the weakest people. It puts forward the idea that poor health carries low social worth as well as low economic reward, but that these factors do not cause the high mortality.

### **Materialist Theories**

Materialist or structuralist explanations emphasize the role of economic and associated socio-structural factors in the distribution of health. It is difficult to ascribe the premature mortality in the lower socio-economic class to subsistence poverty. Social class and the characteristics associated which belonging to that class have health implications. As poverty is a relative concept, people belonging to a low socio-economic class may be relatively disadvantaged in relation to the risks of illness or accident, or to the factors that promote a healthy lifestyle.

### **Behavioural Theories**

The cultural or behavioural explanations of the distribution of health suggest that its unequal distribution in modern industrial society is the result of incautious lifestyles, wherein people harm themselves or their children by their excessive consumption of harmful commodities and refined foods, and by their underutilization of preventive health care and contraception. It is implied that there are subcultural lifestyles, rooted in personal characteristics and level of education, which govern behaviour. According to the 'culture of poverty' view of Oscar Lewis (1967), human existence in any given environment involves a process of biological and social adaptation which gives rise to the elaboration of a structure of norms, ideas and behaviours. This 'culture of poverty' over time seems to help individuals to cope with their environment. This view firmly ascribes poor health to the behaviour of people themselves, and by implication makes them fully responsible for the untoward outcomes. The implication that the poor are in some respects a homogeneous group has caused this view to be widely criticised by British social scientists (Rutter and Madge, 1976; Holman, 1978; Townsend, 1979).

Susan Harkness et al (2012) studied on the role of institutions, behaviours and culture upon the poverty. According to them the drivers of poverty can be thought of as falling into three categories. First, structural features of the

economy will influence the overall level of poverty: the level of wage inequality; employment opportunities (including for those from ethnic minority groups and disabled people who may otherwise face discrimination in finding work); barriers to work, such as high costs of childcare; and the tax and benefit systems all matter. Second, the characteristics of individuals also matter to their overall risk of being in poverty: for example, poverty is associated with characteristics such as low educational attainment or ill health as well as with family characteristics, particularly lone parenting. But the behaviours and attitudes of people in poverty (or their individual 'agency') may also matter and could provide a partial explanation as to why some individuals are living in poverty. Third, it has been argued that a 'culture of dependency' may exist. The literature has described cultures of worklessness existing both within families and being passed from one generation to the next (leading, for example, to intergenerational worklessness) or as persisting within geographical neighbourhoods. But it is also important to recognise the interrelationship between these drivers; government policy can, for example, influence behaviour by requiring claimants to engage in job search.

### **The Culture of Poverty**

In Indian context the indigenous people who are generally considered as 'subaltern' or the 'voiceless' has the culture of poverty as they fall back on fatalism, no plans for future, semi nomadic in living style mostly habituated in tribal settlements in hills, valleys and forests. The fishermen's community found both in the east and west coastal belt of India again has the culture of 'not saving' for tomorrow. They spend lavishly when there is a 'good catch' and starve during off season.

### **Unemployment and Poverty**

In the developing nations like India unemployment is a major problem. The number of educated unemployed is increasing over the years. Unemployment is the reflection of poverty. Due to lack of employment opportunities, people remain either unemployed or underemployed. Most of these unemployed and underemployed workers are the small and marginal farmers and the landless agricultural labourers. Unemployment prevails on account of various factors such as;

#### **a. Lack of Motivation**

Lack of motivation is an important cause of unemployment due to rural poverty. Some of those from rural and also urban youth do not have a motive to work hard or even to earn something. This accounts for the poverty of these groups of people.

**b. Idleness**

Most of the rural people are lazy, dull and reluctant to work. Hence they rot in poverty.

**c. Low Agricultural Productivity**

Poverty and real income are very much interrelated. Increase in real income leads to reduction of the magnitude of poverty. So far as agricultural sector is concerned, the farmers even today are following the traditional method of cultivation. Hence there is low agricultural productivity resulting in rural poverty.

**d. Unequal Distribution of Land and Other Assets**

Land and other forms of assets constitute sources of income for the people from rural settings. But, unfortunately, there has been unequal distribution of land and other assets in our economy. The size-wise distribution of operational holdings indicate a very high degree of concentration in the hands of a few farmers leading to poverty of many in the rural sector.

**e. Decline of Village Industries**

At present consequent upon industrialization, new factories and industries are being set up in rural areas. Village industries fail to compete with them in terms of quality and price. As a result they are closed down. The workers are thrown out of employment and lead a life of poverty.

**f. Immobility of Labour**

Immobility of labour also accounts, for rural poverty. Even if higher wages are offered, labourers are not willing to leave their homes. The joint family system makes people lethargic and stay-at-home.

India has nearly 6,00,000 villages and the villagers are mostly illiterate, ignorant, conservative, superstitious and fatalistic. Poverty is considered as god-given, something pre-ordained. All these are the cultural factors lead to abysmal poverty in rural India.

**Habitual Factors Leading to Perpetuate Poverty**

The major habits of the poor people are various addictions, debts, consumerism and hedonism. Let us analyse them briefly.

**Addiction**

The Centre for Social Justice has highlighted alcohol and drug addiction as one of their five “pathways to poverty” (Centre for Social Justice, 2006). This analysis describes these behaviours both as causes and consequences

of poverty, leading to a cumulative cycle of deepening poverty that needs to be broken. Yet, while poverty affects more than one in five of the population, serious problems of drug and alcohol addiction are of a different order of magnitude. Best estimates of the number of problematic drug users ('PDUs', defined as users of crack cocaine or opiates), for example, suggest that 0.89 per cent of the population is affected (Hay et al., 2011) while 3.8 per cent of the adult population (1.6 million people) is estimated to be dependent on alcohol (this group is identified using the Adult Use Disorders Identification Test, NICE, 2011).

Problematic drug use (PDU) is also correlated with poverty, as Shaw et al. (2007) report, with those at the "margins" of society most at risk, such as those in care, excluded from school and in contact with criminal justice or mental health services, and homeless people. Shaw et al. also reports evidence which suggests that the poorest communities and those with high levels of unemployment are most affected by PDU. Causal effects include poor social capital within communities and weak family networks. Others link PDU to limited opportunities and structural disadvantages: Buchanan (2004, reported in Shaw et al., 2007) argues that PDU may be a "socially constructed phenomenon that has less to do with individual choice or physical dependence, and much more to do with the structural disadvantages, limited opportunities, alternatives and resources". In particular, he suggests that disadvantage and exclusion were major issues preceding a drugs habit for PDUs.

### **Debt**

In India most of the small scale farmers and businessmen depend upon money lenders for their livelihood investment. If there is crop failure or business loss they are unable to repay the loan often with huge interest. It leads to heavy financial burden and consequent poverty often ends up in suicides. The farmers' suicide is a major problem in India and several Third World countries.

The final pathway to poverty that the Centre for Social Justice (2006) identifies is personal debt. While those with low incomes are at greatest risk of debt, research for JRF has shown that what sets apart borrowing by those on low incomes from the rest of the population is not the fact that they use credit (growing indebtedness over the last decade was widespread as a 'culture' of borrowing grew) but rather their indebtedness often arose because their income levels made borrowing a necessity in order to meet basic day-to-day needs (Dearden et al., 2010). Six in every ten adults living in the poorest income quintile turn to borrowing over a 12-month period (Collard

and Kempson, 2005). For many, serious debt problems result from an accumulation of debt over time as a result of persistently low levels of income. Other research supports the link between low income and borrowing for essentials; for example, Dearden et al. (2010) find that over-indebtedness is typically a result of inadequate income rather than profligate consumption. For those on low incomes, the cost of being indebted is often much higher than it is to those on higher incomes and with more serious consequences.

“The poor pay more for many things – but, arguably, it is the extent to which they pay more for credit that puts the greatest strain on their budgets. In fact, levels of credit use vary little with household income. But, in contrast to people who are better off, people on low incomes borrow more often for necessities and use sources of credit that have higher charges.” (Collard and Kempson, 2005)

### **Consumerism**

The Globalization often leads to competitive markets and it promotes consumerism. The poor spends most of their earnings upon consumer goods and often it becomes a life style in certain geographical areas like coastal belt as mentioned above. The ‘culture of hire purchase’ again leads to consumerist habit and in turn accumulates debt leading to poverty. Hence the consumer behaviour although contributes to economic growth people having low purchase ability it becomes a path way to poverty.

A lot has been said about the society of consumption. Control over others, through processes of possession, domination, and seduction, are the main mechanisms at work here. Possessing material goods (or the wealth that allows possession of them) is supposed to be the natural aim of human action, and the sole source of prestige, respect and social status. This is of course encouraged by advertising and marketing campaigns, that sometimes run very deep, such as those purveyed by the automotive industry. In some cases, one can observe people who withdraw from business and worldly preoccupations, and turn towards the wisdom of India or other far East countries where spirituality is still rooted in the culture. (Gandhi had well defined Indian identity as a spiritual one, opposed to Western “materialism”.) This is a reaction against the excesses of the ‘possession’ values, for which this wisdom substitutes ‘detachment’. In general, as James Redfield rightly observed, spiritual consciousness and preoccupations are progressing significantly in the Western countries, in a way or another, as one can see through the clothing or hairstyle fashions, musical trends, or trendy restaurant decor, which express the fascination that Westerners feel for the spiritual

far East. Dearden et al. (2010) point to high levels of consumer temptation leading to credit card expenditure among the young, with this debt then carried over into adult life; important life shocks such as having children or relationship breakdown; the onset of disability or ill health; or large unexpected expenditure shocks. Thus consumerism is a whirlpool of impoverishment in the behaviour of the subalterns.

### **Hedonism**

The increased urge to seek pleasures mostly found in the western culture is gradually creeping into the rest of the world. The business community promotes it on the grounds of commercial gains. However the culture of hedonism dehumanizes increasing the rift between the rich and the poor. The poor who are equally ambitious when not able to achieve the materialistic target adopt antisocial means to meet their ends. Further the ‘culture of hedonism’ empties the financial sources as often emotional gains are not in tune with the income generated. In this culture, personal attractiveness and youth become capital values. Consuming goods can also be a source of this pleasure that is supposed to guarantee happiness in opposition to the sterner former morality, which insisted on the accomplishment of duties and responsibilities, on work and constructive values. Of course, the Communitarian Movement was also on the track as it suggested balancing individual rights with responsibilities.

### **Social Factors Perpetuating Poverty**

#### **a. Education**

Education is an agent of social change and egalitarianism. Poverty is also said to be closely related to the levels of schooling and these two have a circular relationship. The earning power is endowed in the individual by investment in education and training. But this investment in people takes away money and lack of human investment contributes to the low earning capacity of individuals. A large body of existing research shows that children from poorer backgrounds do less well in a number of dimensions than their peers. Aspirations, attitudes and behaviours of parents and children matter to their achievements too, and play a potentially important role in explaining why those from low-income families perform less well. Gregg and Goodman’s report (2010) finds key differences between children from poorer and better-off homes for pre-school children, those at primary school and children of secondary school age. For those under 5, Gregg and Goodman identify differences in health and well-being (e.g., birth weight, breastfeeding and maternal depression); family interaction (e.g., mother–child closeness);

parenting styles and rules (e.g., having regular bedtimes and mealtimes); and the home learning environment (e.g., reading to children and presence of books). As children go to primary school, the gap between children from poor backgrounds and others grows further. Differences in parental attitudes and educational aspirations for their children, and the greater behavioural problems in children of primary school age from low-income backgrounds, are found to explain around one-third of the difference in progress made between rich and poor children between the ages of 7 and 11.

Socio-economic status forms a huge part of this equation. Children raised in poverty rarely choose to behave differently, but they are faced daily with overwhelming challenges that affluent children never have to confront, and their brains have adapted to suboptimal conditions in ways that undermine good school performance.

The most significant risk factors affecting children raised in poverty are;

- Emotional and Social Challenges.
- Acute and Chronic Stressors.
- Cognitive Lags.
- Health and Safety Issues.

Combined, these factors present an extraordinary challenge to academic and social success. This reality does not mean that success in school or life is impossible. On the contrary, a better understanding of these challenges points to actions, educators can take to help their less-advantaged students succeed.

#### **b. Caste System**

Caste system in India has always been responsible for rural poverty. The subordination of the low caste people by the high caste people caused the poverty of the former. Due to rigid caste system, the low caste people could not participate in the game of economic progress. A Shudra was not allowed to become a trader and a Vaisya could earn his bread only by trade.

#### **c. Joint Family System**

The joint family system provides social security to its members. Some people take undue advantage of it. They live upon the income of others. They become idlers. Their normal routine of life consists in eating, sleeping and begetting children.

In this way poverty gets aggravated through joint family system.

#### **d. Social Customs**

The people from rural spend a large percentage of annual earnings on social ceremonies like marriage, death feast etc. As a result, they remain in debt and poverty.

In this way people are poor because they have little investment in themselves and poor people do not have the funds for human capital investment.

#### **The Family Structures in Relation to Poverty**

Susan et al (2012) further states that in the UK, 46 per cent of children in lone-parent families were in relative poverty in 2009/10 compared with 24 per cent of those living with couples. Unfortunately official statistics do not yet give a breakdown by marital status. However, looking at very young children using Millennium Cohort Survey data, Kiernan et al. (2011) find that, when children were aged three, the likelihood of being in the bottom income quintile stood at 21 per cent for those whose parents were married, 38 per cent among cohabiters, and at 81 per cent for those living with lone parents. While incomes are lower for cohabiting mothers than for those who marry, the position of cohabiters is very different in the UK than the US, from where comparative evidence is often drawn. As Kiernan et al. (2011) note, “cohabiting mothers in the UK [are] only slightly more disadvantaged than their married counterparts, cohabiting mothers in the US tend to be far worse off and more closely resemble lone mothers than married ones”.

However, these associations between family types and poverty tell us little about causality. The extent of causality is unclear for two reasons: first, groups such as lone parents or teenage mothers may have a greater risk of being in poverty not because of their family status per se but because they are more likely to have other characteristics, such as low educational attainment, which raise the risk of poverty. Second, family structures may not only be a cause but also a consequence of poverty.

In this context an evaluative study is done based on the field action projects of social work education and the available secondary sources unearthed the behavioral implications that constitute into the prevalence of poverty among such livelihood entrepreneurs.

#### **The Major Factors of Prevailing Impoverishment**

It may be alcoholism, gambling or similar social evil habits or lack of saving and thrift spending. The under utilization and mismanagement of government funds in livelihood development is another menace to the entire phenomenon. The subaltern culture of inferiority and lack of confidence add to submissive

behavior making slavish the independent efforts made by several NGOs towards sustainable development.

Putting poverty in a broader conceptual framework also constitutes a feature of more recent approaches. The increasing reference to the concepts of vulnerability and livelihoods marks the search for a better understanding of the environment in which poverty takes place and a shift towards more comprehensive poverty reduction strategies (FAO, 2000*b*). Within a sustainable livelihood framework, reducing poverty does not only involve better income, it also concerns providing broader livelihood-related choices. Expanding livelihood choices involves placing greater emphasis on the interface between agriculture production and other activities. Emerging forms of diversified livelihoods contribute to spreading risk and reducing vulnerability. Vulnerability of the poor restricts their livelihood choices. In many countries vulnerability has increased recently as a result of a growing prevalence of HIV/AIDS and political disturbance. Poverty-reduction efforts, particularly in rural areas, involve reducing poor people's vulnerability.

The deserted regions of Rajasthan we find poor people still cling on to traditional trades irrespective of their less productivity. Inertia is prevalent among the rural employees who are reluctant from any type of livelihood changes.

To explore further alcoholism and use of pan parag or similar drug is a major behavioural symptom found among rural poor. Each day, they spend nearly hundred rupee for such habits. No money is left for saving. Is it the internal psyche and superstitious fate based culture that contributes to such impoverishment or an external suppressive characteristic of the powerful and the affluent? This analytical study makes a breakeven to explore the factors that contribute to the community resistance in making the livelihood projects failed and keeping the marginalized community in poverty throughout. In this study, interviewing the community leaders, the following factors were reported.

1. The poor are satisfied with the minimum they earn. They want to enjoy here and now and do not want to save for future as tomorrow is uncertain
2. The male workers focus on spending the money on alcohol, and other drugs which empty their pocket.
3. The female workers spend the money on dress material and cosmetics and chewing tobacco with betel leaves is one of their habits.

4. Although micro finance is running, it does not contribute substantially to the family income.
5. The mismanagement of the government fund to be used for sustainable livelihood is another reason why the poverty still persists in the society.
6. Increased dependency on fatalism and superstitious beliefs make the rural folk tied down to existing impoverished subaltern structures with no effort to come out of it.
7. Lack of confidence and increased fearfulness lead them to be satisfied with the existing situation not ready to venture into any innovative livelihood means.

Evaluating the behaviour of the employees engaged in Beedi works which covers nearly 75% of housebound work in Dakshina Kannada district, more than 60% of them are having habits of using alcohol, chewing tobacco or pan parag.

Another 40% are satisfied with the current livelihood although it gives only meager income.

Majority of the village workers attribute their poverty to fatalism. They feel that they are born in such and such caste and they are indebted to the higher caste, development and riches are not meant for them. They consider it as a curse of deities who are unfavourable to them due to their past life misdeeds.

### **Conclusion**

The subaltern culture perpetrate poverty due to these studied factors which needs in-depth research both quantitative and qualitative to find out means and ways to remedy such chains that bond the livelihood sustainability towards poverty eradication. The culture of poverty prevails on account of the habits apart from the external economic forces. The social inequality is further widened as a result of fatalistic beliefs by which the poor hardly make any effort to come out of the impoverishing environments. The policy makers need to focus upon the behavioural implications of the impoverishment of the poor to find proper strategies to generate awareness among the poor about these delimiting factors to find suitable remedy. The social activists and those who work for the upliftment of the poor should spend time in helping the poor to get out of the habituating tendencies that perpetuate poverty. Needless to say the responsibility of civic society is greater to improve social capital and community networks through neighbourhood groups that promote sustainable livelihood liberated from the evils of impoverishment.

## References

- Antonio, A. R., Ioris. (2014). The paradox of poverty in rich ecosystems: impoverishment and development in the Amazon of Brazil and Bolivia, *The Geographical Journal*, Royal Geographical Society (with the Institute of British Geographers).
- Collard, S., Kempson, E. (2005). *Affordable credit*. York: Joseph Rowntree Foundation.
- David Atchoarena, Lavinia Gasperini. (2003). Education for rural development: towards new policy responses, Food and Agriculture Organization of the United Nations, Rome, Italy.
- David Mosse. (2007). Power and the Durability of Poverty: A Critical Exploration of the Links between Culture, Marginality and Chronic Poverty University of London - School of Oriental and African studies.
- Dearden, C., Goode, J., Whitfield, G., Cox, L. (2010). *Credit and debt in low-income families*. York: Joseph Rowntree Foundation.
- Eric Jensen (2009). *Teaching with Poverty in Mind*, ASCD
- Gregg, P., Goodman, A. (2010). *Poorer children's educational attainment: How important are attitudes and behaviour?* York: Joseph Rowntree Foundation.
- Hay, G., Gannon, M., Casey, J., Millar, T., (2011). *National and regional estimates of the prevalence of opiate and/or crack cocaine use 2009-10: A summary of key findings*. London: National Treatment Agency for Substance Misuse.
- Holman, R. T. (1978). *Poverty: Explanations of Social Deprivation*. London: Robertson.
- Kiernan, K., McLanahan, S., Holmes, J., Wright, M. (2011). *Fragile families in the US and UK fragile families*. Working paper WP 11-04-FF. Center for Research on Child Well-Being, Princeton University.
- Lewis, O. (1967). *The Children of Sanchez*. New York: Random House.
- Mondal Puja *The Causes of Poverty in India*, Essay.
- NICE. (2011). Alcohol-use disorders: Diagnosis, assessment and management of harmful drinking and alcohol dependence. *National Clinical Practice Guideline 115*. London: NICE.
- Patrick Hunout, Didier Le Gall, Brent Shea. (2003). *The destruction of society - challenging the 'modern' Tryptique: individualism, hedonism, consumerism*, 5(9).

- Rutter, M., Madge, N. (1976). *Cycles of Disadvantage*. London: Heinemann.
- Shaw, A., Egan, J., Gillespie, M. (2007). *Drugs and poverty: A literature review*. Scottish Drugs Forum on behalf of Scottish Association of Alcohol and Drug Action Teams.
- Sukhdeep Kaur Mann, Varinder Randhawa, Kanwaljit Kaur. (2011). Role Performance and Associated Problems of SHG Leaders, *Journal of Community Mobilization, and Sustainable Development*, 6(1): 050-054.
- Susan Harkness, Paul Gregg, Lindsey MacMillan. (2012). *Poverty: The Role of Institutions, Behaviours And Culture*, The Joseph Rowntree Foundation, University of Bath.
- Centre for Social Justice. (2006). *Breakdown Britain*. London: Centre for Social Justice.
- Townsend, P. (1979). *Poverty in the United Kingdom*. London: Penguin.
- Townsend, P., Davidson, N., Whithead, M. (eds) (1992). *The Black Report and the Health Divide: Inequalities in Health (2nd edn)*. London: Penguin.
- Vijaya Murali, Femi Oyebode. (2004). *Poverty, social inequality and mental health*, *Advances in Psychiatric Treatment*, 10 (3): 216-224
- Wilkinson, R. G. (1996). *Unhealthy Societies: The Afflictions of Inequality*. London: Routledge.
- Wilkinson, R. G. (1997). *Health inequalities: relative or absolute material standards*. *BMJ*, 314, 591–595.
- World Health Organization. (1995). *Bridging the Gaps*. Geneva: WHO.

---

## General Guidelines

### The Journal invites submission of articles in the following disciplines

1. Commerce and Accounting Management
2. Physics
3. Social Work
4. Economics
5. Chemistry

### Guidelines for Contributors

1. The manuscripts could be in any of the following four categories

Abstract	200 word limit
Journal Articles	4000 word limit
Professional and practice forum	3000 word limit
Research briefs	2000 word limit
Book Reviews	1500 word limit
2. The manuscripts should be prepared in Microsoft word format with Times New Roman font 1.5 spaced in A4 page format. Title should be in sentence case format font 14 pt bold, body 12 pt and authors' names must be accompanied by affiliation and personal Email Id. The manuscript must be emailed to the editor.  
Email: [pearljournal@spcputtur.Org](mailto:pearljournal@spcputtur.Org)
3. Each manuscript should be accompanied with a declaration by all the authors that:  
They are the authors of the manuscript in the order in which listed  
The manuscript is original, has not been published earlier, and has not been submitted for publication elsewhere.
4. If the author has quoted more than 500 words/a table/a figure from a published work, in the manuscript, a copy of permission obtained from the respective copyright holder needs to be enclosed.
5. The manuscript will be peer reviewed by two anonymous reviewers and the editorial board will take the final decision of accepting the manuscript or not for publication.  
The criteria for peer reviewing will be as follows;  
Contemporary relevance and contribution to respective knowledge field  
Clarity in thinking and content with logical analysis  
Methodology for research papers and appropriate references  
Originality  
Language

6. The copy right of the manuscript will be exclusively assigned to the Journal once the manuscript is accepted for publication. Reprint of the same requires written permission from the editor.
7. Reference: The citation or paraphrasing from other works should be supported by the author's explanation and logical continuation should be maintained throughout. Using the works of others without citing the source is plagiarism and fraud and author will be solely responsible for any act of such plagiarism which would be legally binding upon him/her.
8. Reference format:
  - a. Book: Author's last name, initials, year of publication, title of the book (underlined/italicised), place of publication and name of the publisher.  
For example; Kurtz, L. F. (1997). *Self-help and support groups: A handbook for practitioners*, Thousand Oaks, CA: Sage Publications.
  - b. Edited book : Author's last name, initials, year of publication, name of the article, initials and last name of editors, Ed./s. in parentheses, title of the book (underlined/italicised), place of publication, name of the publisher and page numbers. For example; Merta, R. (1995). Group work. In J. Ponterotto, J. Casas, L. Suzuki, and C. Alexander, (Eds.), *Handbook of multicultural counseling*, Thousand Oaks, CA: SAGE. 567-585.
  - c. Journal articles: Author's last name, initials, year of publication, name of the article, name of the journal (underlined/ italicised), volume number, issue number in parentheses, and page numbers. For example; Kim T. Mueser, David P. Vabutines and Julia Agresta (1997), Coping with negative symptoms of schizophrenia, *Schizophrenia Bulletin*, 23(2): 329-339.
  - d. Institutional report: Write full name of the institute as the author.  
For example; National Mental Health Association (2001), Mental Health center, Alexandria.
  - e. More than one author. List all the authors' names. For example; Mueser, K.T., Valentiner, D. P., Agresta, J., (1997). Coping with negative symptoms of schizophrenia: patient and family perspectives. *Schizophrenia Bulletin*. 23(2): 329-39.

- f. More than one reference of the same author: list the earlier publication before the later publication. For example;
- Lefley, H. P. (1990). Culture and chronic mental illness, *Hospital and Community Psychiatry*, 41(3): 277-286.
- Lefley, H. P. (1992). Expressed emotion; conceptual, clinical and social policy issues. *Hospital and Community Psychiatry*, 43(6): 591-598.
- g. More than one reference of the same author in the same publication year are arranged alphabetically by the title, and suffixes a, b, c and so on are added to the year. The same suffixes should be added in the text also. For example;
- Lefley, H. P. (1987a). Aging parents as caregivers of mentally ill adult children: An emerging social problem. *Hospital and Community Psychiatry*, 38: 1063-1070.
- Lefley, H. P. (1987b). Culture and mental illness: The family role. In A. B. Hatfield and H. P. Lefley (eds.), *Families of the mentally ill: Coping and adaptation*, New York: Guilford Press, 30-59.
- h. When a reference has no author type the first two to three words, ellipses and year and the name of the work and publisher could be followed. For example;
- The problems of respite... (1997). *Stepping stone crisis respite program*, NEC Newsletter, 10.
- i. When a reference has no year, state 'no date' in place of the year. For example;
- Murthy Srinivasa R.(ed.) no date Mental health in India, People's Action for Mental Health, Bangalore.
9. Colour art work: Please make sure that artwork files are in acceptable format and with the correct resolution.
10. Figure captions: Ensure that each illustration has a caption. A caption should comprise a brief title and a description of the illustration. Keep text in the illustrations themselves to a minimum but explain all symbols and abbreviations used.
11. Tables: Number tables consecutively in accordance with their appearance in the text. Place footnotes to tables below the table body and indicate them with superscript lowercase letters.

# **PEARL**

## **Multidisciplinary Journal**

**St Philomena College, Philonagar  
Darbe Post, Puttur, D.K., Karnataka -574 202  
E-mail:pearljourn@spcputtur.org www.spcputtur.org**

St Philomena College, Puttur established in 1958 offers seven under graduate and six post graduate departments. The College is reaccredited by NAAC at 'A Grade'. Since its inception, The Centre for Post Graduate Studies and Research of the College has been striving for academic excellence and promotion of research. The support from the management and the dedication of the qualified members of the faculty has given a fillip to the academic growth and an opportunity to explore the diverse fields of human knowledge. The departments of Commerce, Physics, Mathematics, Economics, Computer Science and Social Work contribute to the emergence of the scholars as well as the scientific community at large. The Journal is an attempt to link this scholastic community to the academic hub of the respective disciplines. Research outcomes should contribute to the substantial growth and development of any scientific society and the journal is expected to reach out to the larger world in the process of knowledge exploration.

### **Disclaimer**

The opinion expressed in the articles of this Journal are those of the individual authors, and not necessarily those of the publishers.

### **For Subscription**

The Circulation Manager, Pearl Journal  
Center for P G Studies and Research  
St Philomena College  
Philonagar, Darbe Post  
Puttur-574202  
D K Karnataka, India

### **Subscription Tariff**

Single copy	Rs 60/-
For Individuals per year	Rs 100/-
For Institutions per year	Rs 250/-
For Individuals Five years	Rs 400/-
For Institutions Five years	Rs 1000/-

Cheque in favour of The Principal, St Philomena College, Darbe, Puttur  
Outstation Payments in Banker's Draft

Printed and Published by Antony Prakash Monteiro for  
St Philomena College, Darbe, Puttur  
Published Twice a year - February and August  
Designed and Printed at Codialbail Press, Mangalore

Pearl, 1 (2) August 2015

