**Executive Summary**

**Background**

The Power Grid Corporation of India has set up a 400/220 kV sub- station at Muzaffarpur situated at NH-77; near village Dariyapur Kafen, P.O. Dariyapur Kafen, Turki, District Muzaffarpur (Bihar). This is the part of transmission scheme, which is undertaken with an objective to facilitate the strengthening of power evacuation system for Hydro Electric Power station in Bhutan. For construction of this new S/S at Muzaffarpur, 49.18 acres land was acquired by State govt. of Bihar. 172 Families were affected, as they lost some portion of their land holding and income from the same. Subsequently, POWERGRID initiated Socio-Economic Survey in the area and implemented Rehabilitation Action Plan (RAP) which included Rehabilitation assistance and Community development work as per its Environment and Social Policy and Procedure (ESPP). This substation was funded by the World Bank under PSDP- II.

 The main objective of the present study is to assess impact of land acquisition and RAP implemented subsequently by POWERGRID on the living standard of the affected persons in terms of improvement or restoration of their previous livelihood, earning capacity and level of productivity.

**Methodology**

Out of 172, the sample survey included 142 PAFs (82.55 %) and 25 non PAFs, who were selected on random basis in order to facilitate a comparative study of both the sections. Interviews were taken of all the above PAFs. Besides this, discussion with the associated functionaries of Panchayat, Govt. officials and other key persons of the affected area were held. Focused group comprising 10-15 members of the project affected area was organized to have an in-depth understanding of vulnerabilities of PAPs/PAFs. In the present impact assessment study interview schedule, observation, case study, participatory rapid appraisal methods have been used as tools for data collection from the field. Two sets of separately designed interview schedules i.e. one for PAFs and another for non PAFs, based on questions pertaining to socio-economic life of PAFs before and after adoption of income generation scheme and utilization of land compensation money, were used.

 The socio-economic status pertaining to land holding size, occupation, annual income, poverty level, in-debtness, household consumption, housing condition, asset possession, drinking water supply, family type, employment opportunity, cropping pattern, status of women, health and education, electricity, sanitation etc. was obtained from the socio-economic study (2004) and compared with the present situation in 2011.

**Finding of the study**

**Land compensation**

Total amount of land compensation that came out to be Rs. 1.9 crores, was paid to the State Government for distribution of compensation to the PAPs, which has been disbursed.

**Utilisation of Land Compensation**

Majority (i.e.75.24%) of PAFs spent the land compensation money on productive means whereas remaining 24.76 percent on non productive means.

**Rehabilitation Assistance payment and utilization**

Meeting of all PAFs was convened on 26-06-2006 by the POWERGRID in the presence of District Magistrate, Muzaffarpur. In this meeting, recommended amount of IGS assistance in form of cash was distributed among PAFs through account Payee Cheques. Review meeting of PAFs was convened on 27-07-2006 in order to know its feedback. About 75.35 per cent of PAFs have utilized the Rehabilitation assistance received on productive means such as on dairy development, grocery/ betel shops, tea stall /STD, dhaba work etc. However, remaining 24.65 % of PAFs spent the rehabilitation assistance on non productive means such as repayment of loan taken for meeting the immediate family consumption, marriage of their wards etc.

**Impact of RAP implementation**

**Average land holding**

Average land holding of PAFs have decreased from 1.978 to 1.762 acres per PAF. No PAP/PAF was rendered landless. The highest 44.37 percent of the PAFs have land holding >1.24 acre and the highest land holding size group i.e. >3.75 acre and above constituted to 8.45 percent PAFs.

**Occupation**

Before the land acquisition, around 49.30 percent PAFs were engaged in cultivation but after RAP implementation and receipt of compensation money the percentage of such PAFs went up to 54.93, where as in control group it remained 48 percent. Similarly, 4.90 percent PAFs were earlier engaged in business but after RAP implementation, their percentage rose to 20.43 percent i.e. more than five times from the past, where as in control group also, this figure went up to 8.00 percent but still this figure is much less when compared to increase in percentage of the PAFs. Similarly, 12.68 percent PAFs were engaged in house hold work, during base line survey. Their percentage went down to 2.11 due to the IGS support extended to them.

**Annual Income**

The average annual income of PAFs increased from Rs.44462/- (2004) to Rs.50087/- (2011). Inflation rate between 2004 and 2011 have been adjusted in income of PAFs. Around 23.94%, 36.62% and 39.44% of PAFs had annual income ranging from < Rs. 15000, Rs. 15001 - 50000 and above Rs 50000 respectively before land acquisition. These figures have gone up to 22.36%, 37.91% and 38.73% respectively after land acquisition. Where as in control group these figures remained at 22.51%, 45.02% and 32.57% only, which is less than the percentage increment in income among PAFs.

**Poverty**

In 2004 (base year) 23.95% PAFs were under BPL category. In 2011 (Impact assessment year) 22.38% PAFs were under BPL category, which indicates change in economic condition of PAFs.

**Average Household Expenditure**

There has been considerable increment in annual household expenditure of PAFs, which indicates an improvement in their purchasing power. There was an increase in expenditure almost under all heads. However, remarkable improvement was seen under in ‘expenditure on education’. The figure rose from Rs. 5500/- in 2004 to Rs. 8000/- in 2011. In the category of non PAFs, the average annual household expenditure on education remained Rs. 7000/- only.

**Indebtness**

The trend of indebtedness in PAFs has considerably declined from the past. Before land acquisition, 12 percent PAFs were in debt and they utilized land compensation money for repayment of loan. Production from land (yield per acre) has also increased. Hence, they have started earning additional income through income generation scheme. These all factors have made PAFs free from indebtedness.

**Housing Condition**

From its study and observation, research team arrived at conclusion that 8.20 percent PAFs were having kaccha houses during base line survey,which came down to 3.52 percent during impact assessment study. Whereas, the percentage of PAFs occupying pucca houses went up to 96.48 percent as compared to 92 percent of their counterpart non PAFs. It means that only 3.52 percent of PAFs have now kaccha where as in non PAFs it is 8 percent.

**Possession of Assets (Agricultural & Non Agricultural)**

Total possession of different kinds of agriculture and non agriculture assets has gone higher after utilization of compensation money and rehabilitation assistance. Number of tractors has risen sharply from 10 to 17. Similarly, the number of pumps before land acquisition was 26 which rose to 37 after land acquisition and RAP support. Possession of these assets has reduced their dependence on big farmers and reduced their vulnerability to a great extent.

**Family type**

69.02 percent PAFs were living in joint families before land acquisition and their percentage came down to 46.48 percent after land acquisition.

**Employment opportunity**

The establishment of new sub-station and its support to enlisted PAFs in the recent past created a new paradigm by providing contractual and daily wage employment in technical and non technical sector. Apart from the direct job opportunities provided by POWERGRID, many secondary and indirect job opportunities have been created. The IGS assistance has also provided jobs to unemployed and housewives to become self employed. Additional income raised by PAFs prompted them to have additional vehicle to transport people and agricultural products from one place to another. This has also added and supplemented to existing jobs available to the PAFs.

**Cropping pattern**

PAFs have taken up cultivation work more systematically after the RAP implementation. Majority of them now go for soil testing and take decision accordingly. The agricultural augmented support given by POWERGRID has further assisted them to have better yield than the past. Due to improvement in Irrigation facility, utilization of new variety of seeds, fertilizers and advanced equipments, productivity has increased in project area.

**Status of Women**

After POWERGRID’s RAP assistance, consciousness level of women PAFs has increased (mainly due to awareness campaigns and newly found economic empowerment). There has been an enhancement in the overall status of women PAFs in the project affected area. Women PAFs are now self employed. Some of them have joined Mahila mandal and panchayat membership. Some of them are associated with agricultural, dairy work and are able to manage family in a better way.

**Drinking Water Supply**

Traditionally, the affected villagers used to take water from dug wells. But when these wells failed to provide adequate clean water for drinking, PAFs either got support from Government or have installed hand pumps for drinking water supply on their own. 12 PAFs have installed electric water pump also in their houses to get adequate drinking water for their family and the animals by using the RA amount.

**Impact of Community Development Works**

POWERGRID was supposed to invest an amount of Rs. 9,00,000/- under the head of community development programmes. However, during the due consultation, some additional needs of PAFs were identified. These needs were incorporated under the heads of Additional Development Works (which is a part of RAP) and Corporate Social Responsibility (CSR). The final budget for community development work under various heads figured Rs. 53,40,000.00/- in total.

Different facilities provided in school by POWERGRID have helped in improving the quality of education in the affected village. The newly constructed Rain Shed at village Bus Stand, Panchayat Meeting Chabutara and new Water drainage Channel are reported to have significant positive impact on community life of villagers. This has made their life easy. The new water drainage channel has brought acres of land under cultivation, which was earlier water logged. This has in turn added to the productivity of PAFs and stakeholders. According to the villagers (the PAFs and non PAFs population) these common community support has indeed helped them to hold panchayat meeting in any season as and when they needed. POWERGRID has also installed solar lamps, which lighten the village in night even during power cuts (a frequent phenomenon in the area). Plantation carried out by POWERGRID is helping in improving the ecology of the area.

**Lesson Learnt**

* Institutional Intervention with people’s effective participation at different levels in need identification, programme planning, administration, and evaluation plays significant role in systematic rehabilitation and development in a desired direction.
* The payment of IGS assistance as well as land compensation money through account payee cheques became most transparent and convenient means of money distribution.
* Need based support ensured adoptability and sustainability of services in future by the beneficiaries.
* Community based common support made for common people in affected locality builds community relations and mutual support for each other.

**Suggestions**

* While finalizing the area for setting up of power station less productive agricultural land, which doesn’t affect heavily to the farmers should be selected. State govt. should finalize land compensation by negotiation method to avoid court case, which will also help timely completion of projects.
* Beneficiaries (PAFs ) belonging to weaker sections deserve special consideration for their continuing support in future