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IWMI-TATA
Water Policy Program

Water Policy Research

# HIGHLIGHT

## Pro-Poor Farm Power Policy for West Bengal – III

*Results of ITP's Monoharpur experiment*

In July 2017, the IWMI-Tata Water Policy Research Program (ITP) launched an action research pilot in Monoharpur village of Birbhum district. At the heart of the field pilot is the hypothesis that tweaking farm power pricing policy can boost the local agrarian economy by creating pro-poor irrigation service markets. After a year of the pilot launch, this highlight, which is third in the series, brings results of the experiment on variables of interest in the study village, reports the challenges faced during course of the study and makes recommendation for policy change.

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# Pro-Poor Farm Power Policy for West Bengal – III [*†]

*Results of ITP's Monoharpur experiment*

*Research highlight based on T. Shah and Chowdhury (2017)*

## 1. Context

West Bengal is a fairly water-rich state and yet, the farmers bear a high irrigation cost owing to expensive farm power. Metering of tubewells at high tariff has shaped the irrigation services markets to become oligopolistic, putting small and marginal water-buying farmers at a disadvantage. T. Shah and Chowdhury (2017) proposed that West Bengal can maximise the equity benefits of tubewell liberalisation by tweaking its electricity pricing policy and collecting a larger proportion of the annual cost- to-serve for a tube well connection through fixed charges rather than consumption-linked energy tariffs. To test this hypothesis, ITP launched a pilot in Monoharpur village of Birbhum district where it offered all pump owners (irrigation service providers, or ISPs) a subsidy of 70 per cent on their monthly bills in excess of the benchmark value set for the month, which was nothing but the average of bills of all ISPs in corresponding month the previous year. This structure was designed to mimic a flat-cum-metered tariff structure, with a high flat rate (benchmark calculated) and relatively cheaper per unit charges (70 per cent subsidized). This would, in our view, encourage ISPs to pump more to maximize gains from subsidy and in turn offer their buyers better irrigation services at lower prices- affecting not only water but also the land leasing market. Details of the study including baseline conditions were communicated through the first two highlights in this series. A total subsidy amount of ₹1,35,927 was paid to the ISPs over the course of one year and their monthly consumptions recorded. Figure 1 shows the average bill of ISPs in 2016-17 (base year) and 2017-18 (study year).

Figure 1: Average monthly power bill of ISPs (₹)

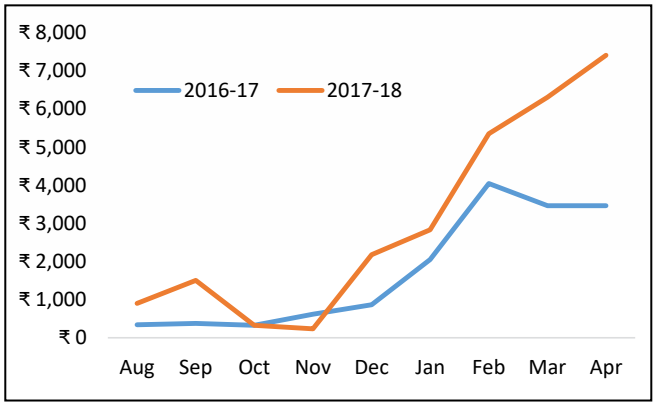
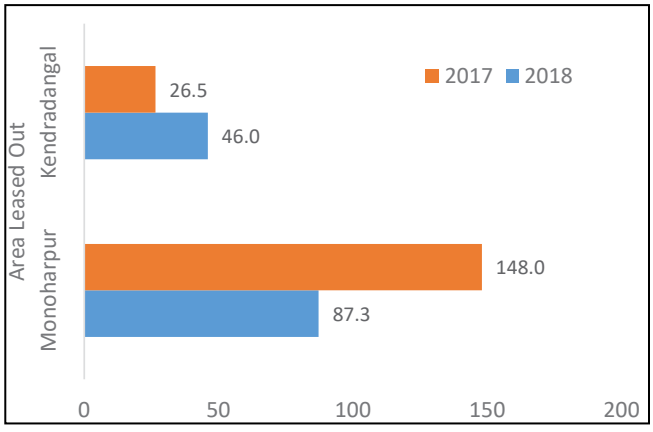



Figure 2: Leased-out area (bigha) in both villages




## 2. The "Mini-Barga" Disruption

As shown in Table 1, the average area irrigated by ISPs actually decreased from 2016-17 to 2017-18 in spite of vehement efforts of ISPs to get more buyers and increase their pump utilization. In fact, land-leasing market in the study year shrunk significantly in the village owing to a rumour spread by a local party that Barga Act[1] would be implemented for all lessees who cultivate on leased land in Boro of 2017-18. The fear of losing rights to their own farms made many farmers in the area reluctant to lease their land out. Some farmers partially cultivated it themselves while others left it barren, creating a large impact in the summer paddy economy as well as on the ITP pilot. Most water buyers did not even lease their land out for rabi crop causing rabi area cultivated by water buyers to decline by 98 per cent. Some buyers who had committed their lands to ISPs took their word back after the ISPs had prepared seedlings and the land – making them suffer losses. Few persistent ISPs, however, managed to lease-in land from relatives and neighbours increasing average area leased in by pump owners from 5 bigha in base year to 7 bigha in study year. The rumour affected some villages more than others given the leaser-lessee relationships. Figure 2 shows the total area leased-out in entire Monoharpur village and sample in Kendradangal village, and the latter's land leasing market appears to have not been affected by the rumour.

* This Highlight is based on research carried out under the IWMI-Tata Program (ITP) with additional support from Indian Council of Agricultural Research (ICAR), Swiss Agency for Development and Cooperation (SDC) and the CGIAR Research Program on Water, Land and Ecosystems (WLE). It is not externally peer-reviewed and the views expressed are of the author/s alone and not of ITP or its funding partners.
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[1]Operation Barga, the land reform movement introduced by the erstwhile Left Front government in 1978, had recorded the names of sharecroppers (bargadars), giving them legal protection against eviction by the landlords and entitling them to a share of the produce. It was also made an inheritable right.

## 3. Water Markets and 'Sticky' Prices

At the baseline, we determined that the W/AC multiple of the village was much higher than 1 i.e. the water prices charged by ISPs (W) was greater than average cost of service delivery (AC) that ISPs incurred. Data showed that ISPs were billed for an average power consumption of 3,503 units, which roughly translates to ₹16,000 which, added to their annual average maintenance cost, provided us with an estimate of their cost of service delivery. Table 1 shows comparison between W/AC multiple for Boro season (December – April) of base year (2016-17) and study year (2017-18). Table 1 shows how ISPs,

Table 1: Comparison of W/AC multiple in base and study years

| Parameter | 2016-17 | 2017-18 |
|---|---|---|
| Average units of power consumed (kWh) | 3,503 | 4,588 |
| Cost of power at ₹5.18/unit[1] | ₹18,146 | ₹23,765 |
| Average pump maintenance cost in Boro season | ₹5,156 | ₹3,495 |
| Operating cost (Rs 3000/month) | ₹15,000 | ₹15,000 |
| Total cost of service delivery over 5 months | ₹38,300 | ₹42,260 |
| Area irrigated by one pump (bigha) | 25 | 24.5 |
| Break-even price for ISPs (for buyers' area irrigated) | ₹1,532 | ₹1,724 |
| Actual price charged by ISPs (ISP-reported) | ₹1,526 | ₹1,740 |
| Actual price charged by ISPs (water buyer-reported) | ₹1,614 | ₹1,798 |
| W/AC multiple | 1.05 | 1.04 |
| Profit percentage for ISPs (at buyer-reported prices) | 5.35 % | 4.29 % |
| Average subsidy received by an ISP under the pilot | NA | ₹7,970 |
| Profit after addition of subsidy provided by ITP | NA | 5.71 % |
| Savings on irrigating own land | ₹7,737 | ₹10,059 |
| Profit after accounting for savings | 25.5 % | 28.05 % |

[1]calculated based on time-based consumption pattern of ISPs of Monoharpur in base year

Table 2: Units estimated and actually billed

| | 2016-17 | 2017-18 |
|---|---|---|
| Area of water buyers irrigated by one pump (bigha) | 25 | 24.5 |
| ISPs own area irrigated by the pump (bigha) | 11 | 14.3 |
| Average pump running hours (area irrigated*28[2] as reported by ISPs) | 1008 | 1086.4 |
| Power consumed by 6.5 HP pump for given hours | 4,888 | 5,269 |
| Units consumed at 75 % efficiency | 6501 | 7,008 |
| Percentage of actual consumption billed | 53.9 % | 65.5 % |

[2] on an average, 28 hours of irrigation is needed for one bigha of Boro paddy

in spite of the subsidy given under the pilot, could barely make the same profit by selling water as last time. This also highlights the fact that ISPs are earning merely 5 per cent more by selling water, that too without accounting for fixed costs averaging ₹88,000 which they pay during pump installation (Shah *et al.* 2017b). They, however, save substantially on irrigating their own land, which is almost half of their total irrigated area, which balances out the fixed cost component. Only the power cost of irrigating one bigha of land for Boro paddy cultivation is around ₹704, so the additional ₹1,000 approximately charged by ISPs is actually not just to cover their operating cost but to cross-subsidize their own irrigation costs. Even with operating expenses at 40 per cent, ISPs are making 80 per cent profit for every bigha of land irrigated in Boro season.

In Table 1, we also see how the average units consumed by each pump has increased by 31 per cent while the area serviced by ISPs remains almost the same. There are two apparent reasons for this inconsistency. Firstly, the utility has been in the process of replacing all overhead low-tension transmission cables in the area to tamper-proof insulated cables under its ₹1,000 crore project to prevent physical pilferage (ToI 2017). In this process, most of the ISPs who ran their pumps on stolen power could not do so this year and hence, their recorded power consumption has shot up drastically even though their actual area has not. Table 2 shows the calculated units that the pumps would have actually consumed in irrigating the area reported during primary survey and the impact of reduced power theft on total consumption billed is also apparent.

Secondly, the higher pump utilization can also be attributed to ISPs wanting to accumulate benefits of subsidy at their level by filling their farm ponds for aquaculture, and expanding their own rabi and Boro area using subsidized power. Ten out of twenty ISPs reported filling of farm ponds this year with their pumps. Data reveals that in total, ISPs' own Boro area has increased by 37.5 per cent in 2018 compared to 2017 while their rabi area has almost tripled. The calculations in Table 2 have ignored utilization of pumps for filling farm ponds by ISPs due to large variation in pump usage across ISPs for this activity; and on an average is not as significant as power consumed in irrigating paddy. Chowdhury (2018) reported that number of hours of pumping for filling farm ponds ranged between 24 to 160 approximately (i.e. 150 to 1,000 units), which averaging to 500 units is only 10 per cent of total power billed.

Unlike the common practice of ISPs declaring their water prices ahead of the season, farmers in the study village only know their irrigation cost at the end of the season. All farm connections in West Bengal are metered with monthly billing cycle but due to high cost of meter reading, the utility generates bills for some average consumption and ISPs know their actual bill only at the end of season when the utility sets camps for bill collection (Shah *et al.* 2017b). This is also one of the reasons why the ISPs feared if they will be able to cross the power consumption benchmark set in the pilot. During multiple group discussions held in the course of the study, ISPs always claimed they had pumped as much as their fellow ISPs and yet, their bill was much lower reducing their confidence to rely on the power subsidy. Issues with billing is a major reason why ISPs cannot set a price for irrigation services at the start of the season. Also, they learn of penalty charged due to delays in payment only during the bill payment camp organized twice a year to collect payment from pump owners, which has to be added to their total cost of irrigation services. Additionally, all ISPs of the area (including three adjacent villages) decide on a common price which is the price set by ISPs of Jadhavpur village nearby, with little room for negotiation from water buyers.

Boro water prices are also closely linked to kharif season water prices. T. Shah and Chowdhury (2017) pointed out that many ISPs only provide Amon irrigation if the water buyer agrees to lease-out a portion of their land to them during Boro. The price that water buyers have to pay in Amon, otherwise, is much higher i.e. ₹600 for 2-3 hours of irrigation (on account of delayed or low rainfall) per bigha. It is in Amon that ISPs earn a hefty profit by selling water to small and marginal farmers. In Table 3, calculations show that compared to 2016, fewer water buyers demanded protective irrigation in 2017 for their kharif paddy, hence, ISPs again couldn't lower Boro water prices as they had to make up for losses in Amon. Kendradangal village in the same block, which was selected as a control village also recorded an increase in price

Figure 3:Comparison of water prices in treatment and control villages

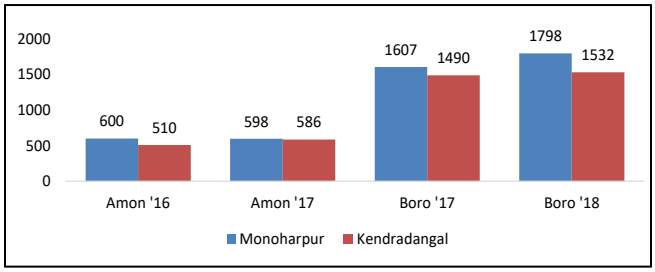



Table 3: Calculation of water selling profit margin in Amon season

| | |
|---|---|
| No. of unit consumed in irrigating 1 bigha (kWh) | 14.55 |
| Units actually consumed (after efficiency adjustment) | 19.4 |
| Amount billed for units consumed | ₹ 100.25 |
| Operating expenses (40 % of power cost as estimated from Table 1) | ₹ 40 |
| Actual amount charged from water buyers | ₹ 600 |
| Profit margin for every bigha irrigated | ₹ 460 |
| Average Amon season profit per ISP in 2016 (Average area= 25 bigha) | ₹ 11,500 |
| Average Amon season profit per ISP in 2017 (Average area= 6 bigha) | ₹ 2,760 |

(see Figure 3) in both Amon and Boro seasons as the factors that influenced price rise in Monoharpur also affected Kendradangal farmers. The rise was lower in Kendradangal which could be due to canal water that was made available in some fields of the village.

## 4. Failure to Create Competition

Chowdhury (2015) reported that ISPs felt that the business of selling water is not as profitable as it appears not only due to high cost of power but due to other reasons too. At the commencement of the pilot, Shah *et al.* (2017a) hypothesized that rational behaviour of ISPs will drive them to maximize their gains from subsidy and hence, create a sense of competition, eventually lowering the price for benefit of water buyers. However, at the end of one year, the prices have only increased. Two of the most important reasons as explained in the section above i.e. reduced ability to pilfer power and decrease in area due to the 'mini-barga' rumour in addition to low irrigation demand in kharif paddy. However, if we assume that none of these disruptions had actually come into play, would the ISPs be motivated to lower prices? Several interviews conducted over the course of one year with the ISPs suggest that the answer is "NO". Chowdhury (2018) lists reasons for this:

- The ISPs of the area have an informal institution for price setting and pump owners who own 5-6 pumps in the area, across villages, generally dictate prices as it suits them. The group knows that they will benefit by sticking together keeping their profits on the higher side.
- The ISPs understood that the subsidy under pilot would only last a year or maybe two but it was not forever, neither did they see any such tariff change implementation by the utility in near future. Lowering prices to attract water buyers of a fellow ISP would project them in a bad light in their group and their gains from sticking to the group over many years is much higher than what they would earn by expanding their command area for one year under the pilot.
- Lowering prices this year opens them up for negotiation and pressure from buyers next year, which they cannot allow to happen as they might incur losses due to the high power bills.
- One of the major issues that ISPs face is timely collection of payment from buyers who being small farmers, often cannot pay during a bad crop season (Shah *et al.* 2017b) and the transaction cost involved in the collection process is high. ISPs who did lower water price for a few water buyers only did it as buyers paid an advance upfront so their future transaction cost was reduced.
- Purchasing a pump and getting connection requires a substantial investment, which was even higher a decade ago. No ISP would invest in one without guaranteed command area for selling water. The ISPs have an informal agreement to not encroach into each others' designated area set during pump installation.
- Many ISPs also own other agriculture equipment like tractor, thresher, etc. which gives them more power over their water buyers, who require these machines in addition to irrigation services- mostly all at credit till they sell off the produce or in exchange for crop.

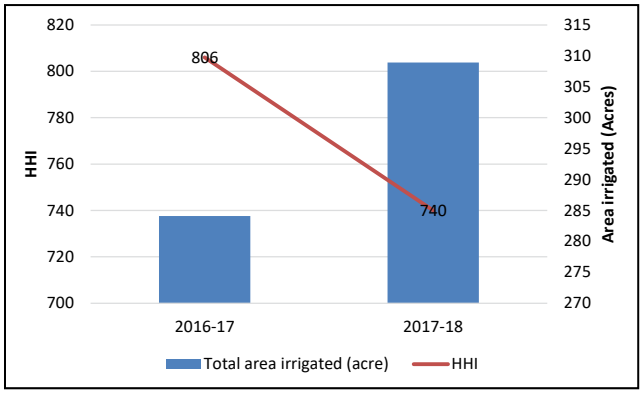
Chowdhury (2018) also reports that there are cases when a water buyer requests an ISP for their services when they have dispute on any matter with their former ISP. The new ISP, however, starts selling water only after a gap of one season to ensure that they don't damage relationship with fellow ISPs.

## 5. The Brighter Side of Things

Prima facie evidence based on data suggested that the experiment hadn't in fact been able to change the irrigation services market of Monoharpur at all. However, Herfindahl–Hirschman Index (HHI)[2] used to quantify market share of

[2] HHI is a commonly accepted measure of market concentration. It is calculated by squaring the market share of each firm competing in the market and then summing the resulting numbers. HHI < 100 indicates perfect competition, 100<HHI<1000 indicates monopolistic competition and HHI>1000 indicates oligopolistic competition.

Figure 4: Total area irrigated in Monoharpur and HHI indicator




each pump owner at baseline and then at the end of the experiment in Monoharpur irrigation services market shows a slight shift in market characteristics. Not only has the total irrigated area of the water buyers (in either or both seasons) increased by 8.7 per cent, the HHI of the market has decreased by 66 points i.e. the market has moved towards being more competitive (Figure 4). This indicates that in spite of increase in price of water, market share of individual ISPs moved closer to each other and the average market share of an ISP increased from 4 per cent to 5 per cent.

## 5.1. Market Share of ISPs

Figure 5 shows the market share of each ISP in 2016-17 and 2017-18 based on data aggregated from 279 water buyers. It is clearly evident from the figure that ISPs with lower market share tried to increase their area covered by pumps while the opposite happened with ISPs who had larger command area earlier. Five water buyers reported having purchased water from a new ISP this year which suggests that ISPs have been trying to get new water buyers but did not want to report it.

## 5.2. Quality of Irrigation Services

The HHI calculated earlier indicated that the irrigation services market of Monoharpur lies in the zone of monopolistic competition i.e. buyers try to differentiate their product/ service. Being service providers, one way for ISPs to differentiate themselves is through better service. The water buyers were asked to rate the irrigation services they receive

Figure 5: Market share of each ISP in base and study year

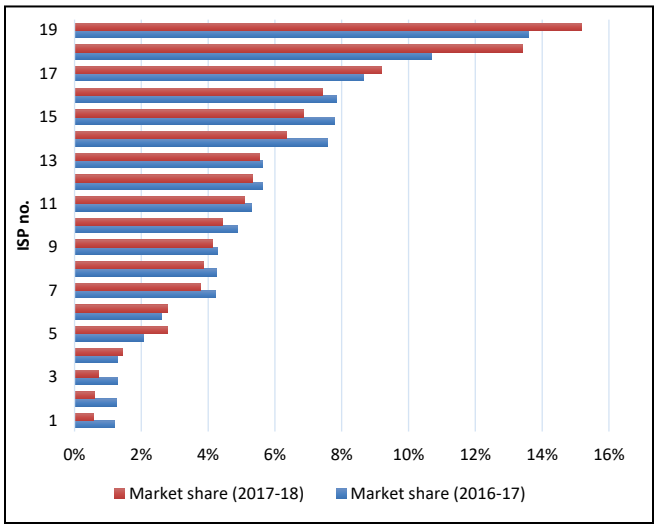
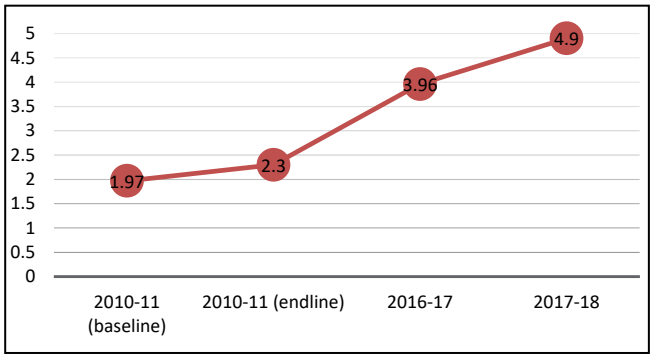



Figure 6: Quality of irrigation services on a scale of 1 to 5

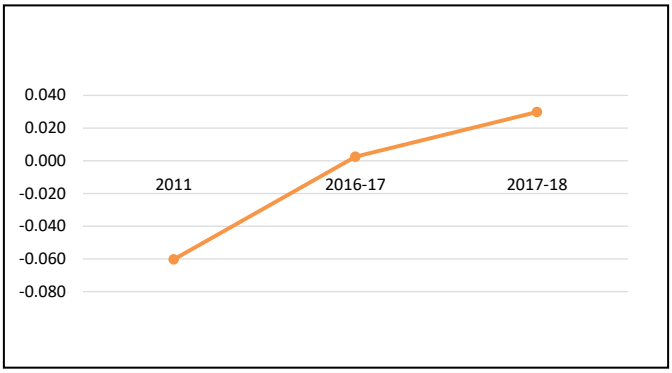



on a scale of 1 to 5, 1 being poor and 5 being excellent. Average rating of services in 616 plots of water buyers is shown in Figure 6. The ISPs have actually improved their service over last year which is an indicator of change in their behaviour towards water buyers as customers. To ensure that their buyer doesn't switch to another ISP, apart from ensuring meeting water needs of buyers as timely as possible, they provided additional services such as channelling water through furrows and pipes themselves without water buyers having to be present in the field, providing discounts for advance payments, or willing to wait for payment until paddy prices are higher so that the buyer doesn't have to sell-off their harvest at lower prices under pressure to pay. While water buyers might not have gained directly through reduced irrigation cost, they have benefitted through better services which also impacts their productivity and income.

## 5.3. Competition-Quality Correlation

To determine whether ISPs faced a threat of losing water buyers to another ISP who can service the same plot, correlation tests were run between total water sellers available in a plot and quality of irrigation services (rated by buyers on a scale of 1 to 5). The number of water sellers and quality of services exhibited weak negative correlation in 2011, very small positive correlation in 2016-17 and stronger positive correlation in 2017-18 – the study year (see Figure 7). It is clear that before receiving subsidized power, the threat of losing their water buyers to another seller who can access a plot was non-existent whereas with heightened sense of competition amongst ISPs while receiving subsidized power made them strive towards providing better services to their buyers. Had it not been for the disruptions, it can be easily inferred that ISPs who made tremendous advancement in their service quality would also have found ways to offer

Figure 7: Change in correlation between extent of competition and quality of services over three periods



better prices to their buyers. Irrespective of the prices, they would have been tempted to lease-in more land to gain more from subsidy, which in-turn would increase the leasing-prices in the village.

## 6. Subsidy Maximizing Strategies

Figure 8 shows that amongst the strategies used by ISPs to maximize subsidy gains, expanding their own area either by leasing-in land when possible or their cropping intensity comprises of the biggest chunk. Some ISPs increased their Boro area either by irrigating some unirrigated highland with pipe or areas in adjacent villages. Others tried to utilise subsidy by increasing rabi area or attempted growing vegetables where Boro paddy cultivation was not possible. Also, digging and filling farm ponds as explained earlier was another major strategy especially in months when subsidy kick-off point was lower. Many ISPs also reported that they did not have any scope to increase their area and hence, couldn't change their pumping behaviour to maximize subsidy gains. None of the ISPs switched to hourly pricing system and given that leasing-in land was difficult due to the Barga Act rumour, many of them offered their services for payment after harvesting.

## 7. Other Market Indicators

During baseline, 98 per cent water buyers had reported that they found it easy to meet their irrigation demand and the same number had reported utmost difficulty in negotiating water prices. While the number of water buyers who could negotiate prices during subsidy regime only increased marginally with 1 per cent of them actually negotiating lower rates, almost all (99.6 per cent) buyers reported their water demands were met very easily this year. This supports the earlier argument that increased competition sense amongst ISPs has ensured timely services to water buyers.

During FGDs, almost all ISPs had mentioned that they faced no difficulty to get water buyers at baseline but at end-line, 35 per cent of them reported difficulty in getting water buyers. 42 per cent of them also reported difficulty in sticking to the set prices due to negotiation by water buyers. They also reported preferring cash after harvest as a better payment system compared to leasing-in land.

## 8. Proposal for a "Pro-Poor" Policy Change

At baseline, ISPs were asked whether they preferred flat over low-tariff metered connection and majority of them preferred the latter. Most ISPs could also run their pumps on pilfered power then. Now, even with tamper-proof overhead cables, ISPs still prefer a low-tariff metered connection over flat. This is mainly because they are worried about losing control on the price of water, which would happen if utilities started levying annual flat charges thereby increasing competition amongst ISPs and thereby empowering buyers to negotiate rates till W/AC multiple moved close to 1. Figure 9 shows responses of ISPs to factors that would motivate them to pump and sell more water to their buyers.

High power bills continue to plague the ISPs year after other, especially when they pay hefty penalties on late payment. Outstanding bills of five ISPs and corresponding LPSC (Late

Figure 8: Strategies of ISPs to maximize their benefit from subsidy (% of total strategies)

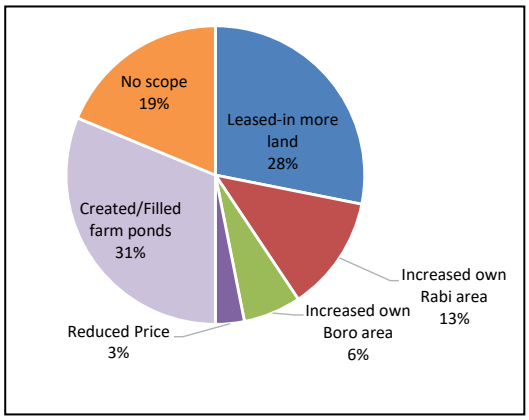
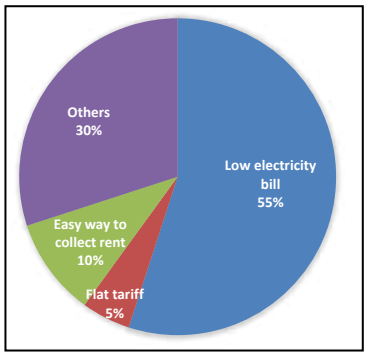



Figure 9: Motivation to sell more to water buyers (% of total ISPs)




Payment Surcharge) are listed in Table 4. On an average, the ISPs have been paying 15-30 per cent of their bill amount as late payment penalties.

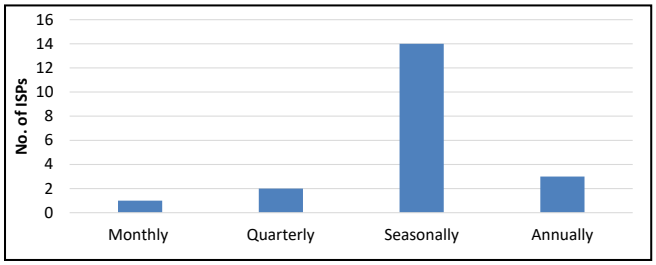
In the second highlight, Shah *et al.* (2017b) reported that the utility bears ₹ 15 for every meter reading ever month and it is a common knowledge in the state that paddy farmers pay their bills only after selling-off their harvest at the end of season. Hence, it makes more sense for the utility to charge farmers seasonally rather than monthly which not only saves their transaction costs but also reduces penalties that ISPs have to pay which they in-turn levy from water buyers leaving them worse-off. Figure 10 shows that 14 out of 20 ISPs pay their bills only seasonally, which further supports the argument made.

M. Shah and Chowdhury (2017) reported based on their exploration of Boro paddy situation in the state multiple instances of villages where farmers had given up on Boro paddy cultivation altogether due to severed electricity connection as they were unable to pay bills and accumulated large penalties. Small and marginal farmers, for whom Boro paddy is prime to food security have been forced to migrate for work. The non-paying consumers become non-performing assets for the utility and add to their losses. The utility incurs ₹ 4.84 for an average unit of power sold but earns only ₹4.07 per unit from farm consumers (PFC 2016). When temporary connection for Boro were more prevalent in the state, farmers paid an advance deposit upfront to the utility which was adjusted based on their final metered consumption. The pump owners as well as water buyers enjoyed cheaper irrigation services then. A similar model can be used by the utility to mitigate issues of NPA and at the same time benefit small farmers.

Table 4: List of outstanding bills and LPSC charged

| Outstanding amount (April-December 2017) (₹) | LPSC charged (₹) | LPSC as percentage of total outstanding (₹) |
|---|---|---|
| 4,179 | 1,287 | 31% |
| 3,862 | 585 | 15% |
| 16,256 | 2,794 | 17% |
| 11,850 | 2,187 | 18% |
| 17,909 | 2,890 | 16% |

Figure 10: Frequency of bill payment by ISPs




Based on data collected during the pilot, it is apparent that all ISPs are mostly medium or large farmers with at least 10 bigha of land, irrigating which in Boro requires approximately 1,400 units of power using a 6.5 HP pump i.e. for approximately 30 per cent of total pump usage as per Mukherji *et al.* (2009). If the utility were to charge them a flat fee of ₹20,000 for first 4,000 units consumed in boro season paid in advance at the beginning of the season, they would still recover their cost of supply with a small positive margin

Table 5: Proposed tariff structure

| | |
|---|---|
| Flat charges in Kharif season (June-November) | ₹ 2,500 |
| Units covered under flat tariff in Kharif | 500 |
| Flat charges in Boro season (December-May) | ₹ 20,000 |
| Units covered under flat tariff in Boro | 4,000 |
| Assured annual revenue for utility per connection | ₹ 22,500 |
| Per unit charge beyond covered units | ₹ 5.10 |
| Revenue from an ISP at Monoharpur at current consumption rate | ₹ 40,350 |
| Savings in metering cost (from 12 times to twice a year) | 83.4 % |

Similar computation can be done for kharif paddy All units consumed in excess can be charged at ₹5.10 per kWh - giving utility a 5 per cent margin on every unit sold. Currently, the utility earns an average revenue of ₹16,405 from each farm connection and it spends ₹7 crores on reading its 3 lakh plus metered connections annually. Table 5 computes its revenue per pump if it follows a flat-cum-metered tariff structure.

The flat-cum-metered tariff structure is definitely a win - win situation for the major stakeholders involved, probably except for the ISPs, who would benefit more if advance flat payment was linked to subsidized per unit charges on excess consumption. ISPs might not find a lot of difference in their consumed energy charges but reduced uncertainty and no LPSC would mean much lower bills at the end of season. The benefits to each of them have been listed in Table 6. Actual slabs for both seasons could vary across districts based on the cropping pattern but for the paddy growing districts (18 of 23), majority of whose cultivated area is occupied by paddy, these calculations are likely to hold true.

Table 6: Benefits of flat-cum-metered tariff structure to different stakeholders

| Stakeholder | Benefits |
|---|---|
| Utility | • Assured annual revenue of at least ₹ 22,500 (37% higher than existing) from every active farm connection<br>• Reduced cost of meter reading<br>• Reduction in number of non-performing assets and risk of non-payment by agricultural consumers |
| Irrigation Pump Owners | • Lowered uncertainty of bill amount and hence, lowered accumulated penalties on late payment<br>• Advance collection of water charges from buyers to pay the flat portion of tariff reducing future transaction costs<br>• Increased motivation to expand area and efficiency of irrigation till 500 units in amon and 4,000 in boro are consumed<br>• Ease of setting prices early in the season to attract more water buyers<br>• Expansion of aquaculture and rabi/boro area without getting bogged down by peak-time charges |
| Water Buyers | • Increased bargaining power as ISP has to depend on them to collect money for advance payment to utility (else might end up losing connection for the season)<br>• Heightened ability to negotiate prices (especially in amon when ISPs have to at least ensure consumption of 500 units)<br>• Avail better land leasing rates knowing that ISPs have more pressure to increase their command area under flat-cum-metered tariff<br>• Improved irrigation services quality offered by ISPs |

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**About the IWMI-Tata Program and Water Policy Highlights**

The IWMI-Tata Water Policy Program (ITP) was launched in 2000 as a co-equal partnership between the International Water Management Institute (IWMI), Colombo and Sir Ratan Tata Trust (SRTT), Mumbai. The program presents new perspectives and practical solutions derived from the wealth of research done in India on water resource management. Its objective is to help policy makers at the central, state and local levels address their water challenges – in areas such as sustainable groundwater management, water scarcity, and rural poverty – by translating research findings into practical policy recommendations. Through this program, IWMI collaborates with a range of partners across India to identify, analyze and document relevant water management approaches and current practices. These practices are assessed and synthesized for maximum policy impact in the series on Water Policy Highlights and IWMI-Tata Comments.

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