

BASELINE STUDY ON SMARTPUR

Linking the SDGs parameters with Smart village in Prakasam district, AP



NOKIA

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DIGITAL EMPOWERMENT foundation

INTRODUCTION

The Smartpur project aims to create a digitally integrated sustainable rural ecosystem. It works towards this objective through a rural entrepreneurship model by integrating technology in existing uses and practices across six pillars: education, health, livelihoods, financial inclusion, governance, and entertainment. The programme is implemented across 10 districts in 7 states: Haryana (Nuh), Uttar Pradesh (Barabanki and Ghazipur), Rajasthan (Alwar and Bharatpur), Telangana (Yadadri Budanagiri), Andhra Pradesh (Visakhapatnam Parawada Mandal and Prakasam), Karnataka (Chamrajnagar), and Tamil Nadu (Kanchipruam). This study evaluates the project pillars across 3 broad thematic areas within its ecosystem of work: Access to information, access to services, patterns of digital use.

This particular study relates to the Prakasam district in Andhra Pradesh and includes the following villages:

Hub Centre- Patha Chirala

Spoke Centres-

- Lohyapuram
- Vodarevu
- Burlavanipalem
- Boinavaripalem
- Thotavaripalem
- Kavurivaripalem
- Papaipalem
- Ragappa naidu palem
- Rammanapeta

Key findings

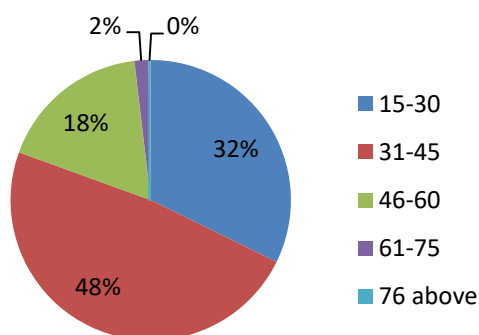
- ICTs rank the lowest in terms of access to information and services.
- Despite Chirala being the Hub, Ramannapeta and Thotavaripalem have the highest smartphone penetration with greater access to services and higher levels of engagement.
- The access to internet services remains very low in general.
- The level of awareness regarding the government schemes is less than even 20%.
- The social ties in the villages are strong, and most of the information regarding education, livelihood, health and finance are provided by friends and village community which ranks high as a source of information.
- Training in ICT skills rank the lowest within rural capability development, highlighting a possibility that ICT skills are not viewed as important livelihood skills
- The awareness about the availability of digital literacy centres remains very low, in villages that have the infrastructure.
- The level of education of the population under study is fairly good, however in terms of the impact on higher paid employment is undeterminable underscoring the requirement for skill-based or vocational training

- 12 (3%) out of 375 respondents, responded for having a digital literacy centre. Out of these 12 respondents, 7 were from Vadarevu village, 2 from Burlavaripalem and Thotavaripalem each and 1 from Kavurivaripalem respectively.
- Although overall digital engagements are low, in a comparative perspective, they are higher compared to reported levels of smartphone ownership and internet connectivity

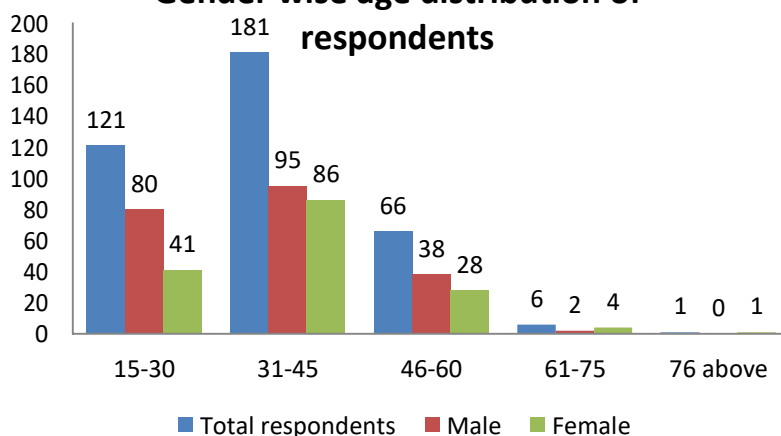
Socio-Economic demography

The baseline survey has been conducted in 10 villages spread across 3 blocks namely Chirala, Karamchedu and Vetapalem of Prakasam district, Andhra Pradesh. A total of 375 respondents were surveyed, out of which 160 (43%) were female and 215 (57%) were male. Most of the respondents were in the age group of 31-45 years (48%) of which 52% were male and 48% were female, followed by 15-30 years (32 %) with 66% male and 34% females and lastly 46-60 years (18%) with 58% male and 42% females respectively.

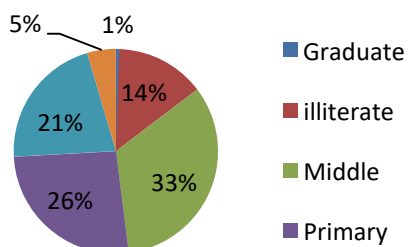
Age group of respondents



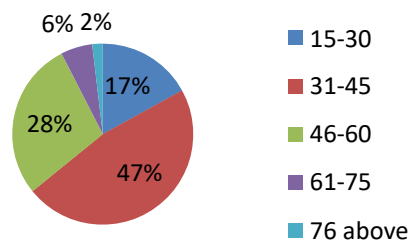
Gender wise age distribution of respondents



Educational level of respondents

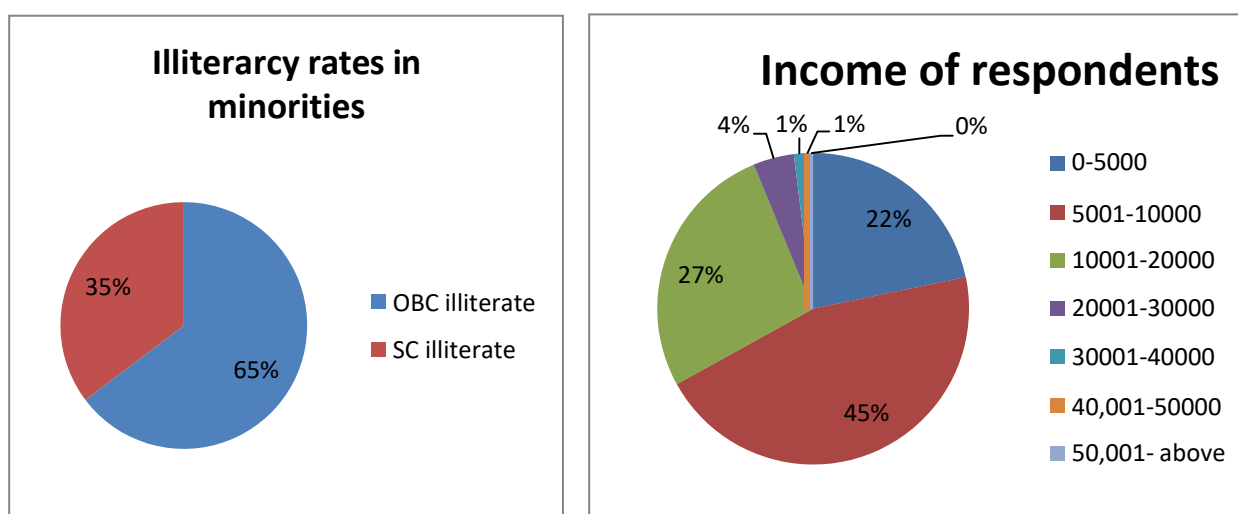


Age wise distribution of respondents without formal primary education

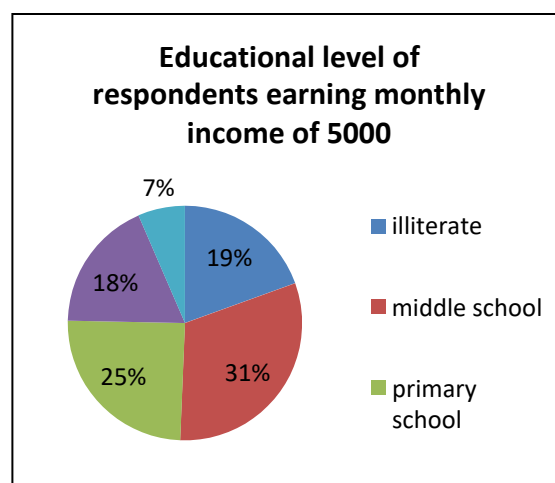


33% respondents have received education up till middle school (58% males, 42% female), 14% of the respondents have never received any kind of education of which 72% are female and 28% are male. The age group of 31-45 has the highest number of respondents lacking even basic formal education i.e. 25 respondents wherein 76% of 25 (19) are females & 24% are (6) males. 96% of the respondents who lack basic primary education are minorities, 65% are OBCs, while 35% are SCs.

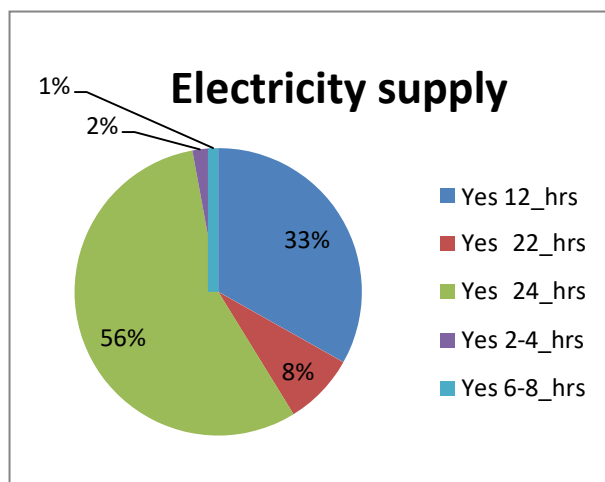
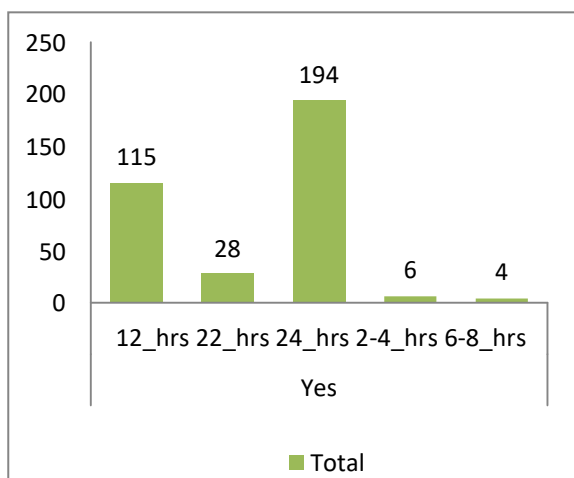
Although the overall education level of the respondents appear to be high (86% respondents have a basic primary education), there is a high degree of intersectional inequality with women and OBCs forming 72% and 65% of the respondents lacking even basic primary education.



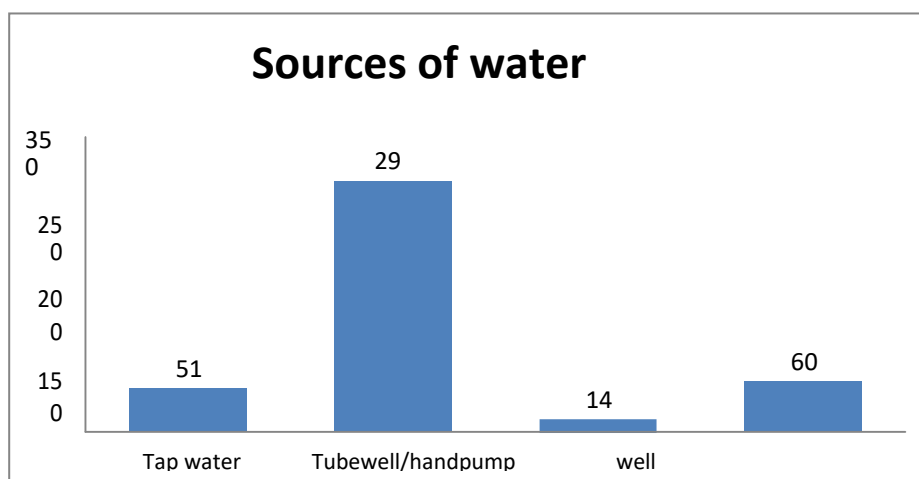
22% respondent earn less than the minimum wage which is approximately Rs 5,000 per month as mandated by the state government , while 45% of the respondents earn somewhere between INR 5,001-10,000 as their monthly income. On further analysis, those respondents who earn equal to or less than the minimum wage of 5,000, 31% have received education up till middle school, followed by 25% who have received primary education and 19% have never been to school. Even for the income category of 5,001-10,000, 64% of the respondents in this income bracket have attained education up till middle school education while only 13% of them are without basic formal education. With respondents earning below minimum wage having different educational backgrounds, there is no discernible impact of education on income and skill thereby highlighting the need for increased skill-based and vocational training.



46% of the total respondents' do not own any vehicle. 40% of total respondents owning a two wheeler have monthly income of Rs. 5,001-10,000 while 17% own a cycle. . Having a vehicle provides the affordance of mobility and reduces the imputed cost involved in travelling to a service access point. 56% of the total respondents reported having electricity for 24 hours, further 33% reported having it for 12, and 8% for 22 hours. Out of 194 respondents who receive electricity for 24 hours, 22% are from Ramannapeta village and 19% from Thotavaripalem and Boyinavaripalem village each respectively. In Pathachirala, 5% respondents reported having electricity supply for 24 hours and 95% for 12 hours. Hence as compared to Ramannapeta village which is a spoke centre, the lower supply and availability of electricity in the hub centre can become a bottle neck for anchoring the spoke centres.



With regards to the patterns of usage of water, 298 of 375 respondents are using tube wells and hand pumps, 60 respondents are using bore wells and 51 have tap water supply. Only 14 of the respondents confirmed that they use well for meeting their water requirements. 78% of respondents are using private toilets, while 15% still defecate in open. Out of 56 respondents who are practicing open defecation, 86% use tube wells, 11% use bore wells and 3% have the supply of tap water.



ICT Uses and Practices

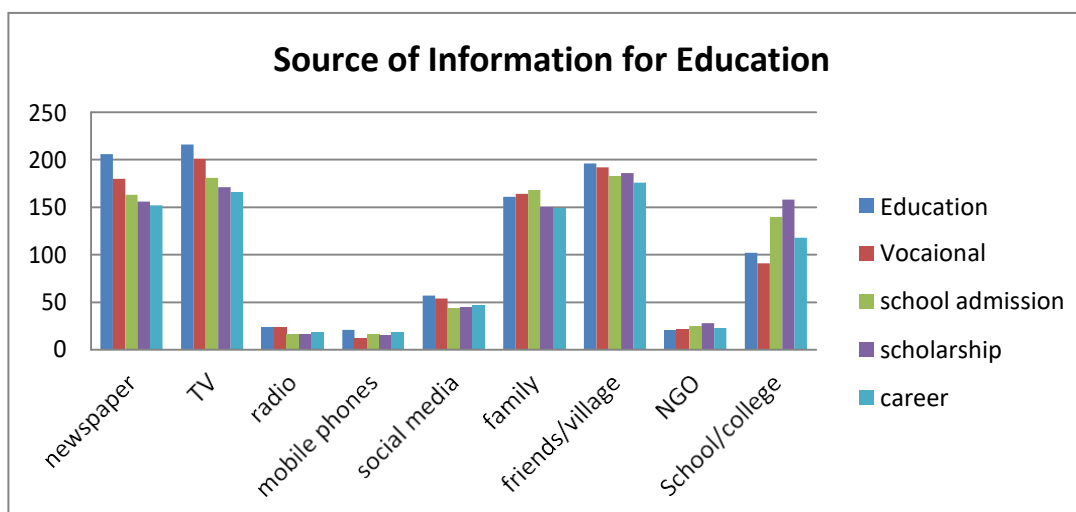
Digital media (Smartphone/computer/laptop) penetration stands at 31% with 75% owning a basic phone. Ramannapeta has the highest smartphone/computer/laptop penetration standing at 16% followed by Pathachirala at 14%, Rangappanidu vari palem and Papaipalem at 13% each and Thotavaripalem & Burlavaripalem at 12% each. Out of those owning basic phones 20% of respondents have monthly income below 5,000. Calling remains the primary function for which mobile phones are used followed by text/ SMS and communication. Out of the respondents who have memory cards, it was primarily used for storing songs, photos and movie/ videos. An overwhelming 71% responded to having no internet connectivity. Among the 257 respondents with no smartphones/laptop/computer, majorly about 229 respondents have no internet connectivity. Among those having internet connectivity, almost 70% have Jio connections; the next preferred connections are Airtel at 10% and Idea at 13%.

Out of the 107 respondents who have a prepaid or post-paid connection, around 28% of the respondents found the connection quality satisfactory, followed by 17% respondents who said they find it bad. While 55% found the quality of the connection Good.

Access to information

Education:

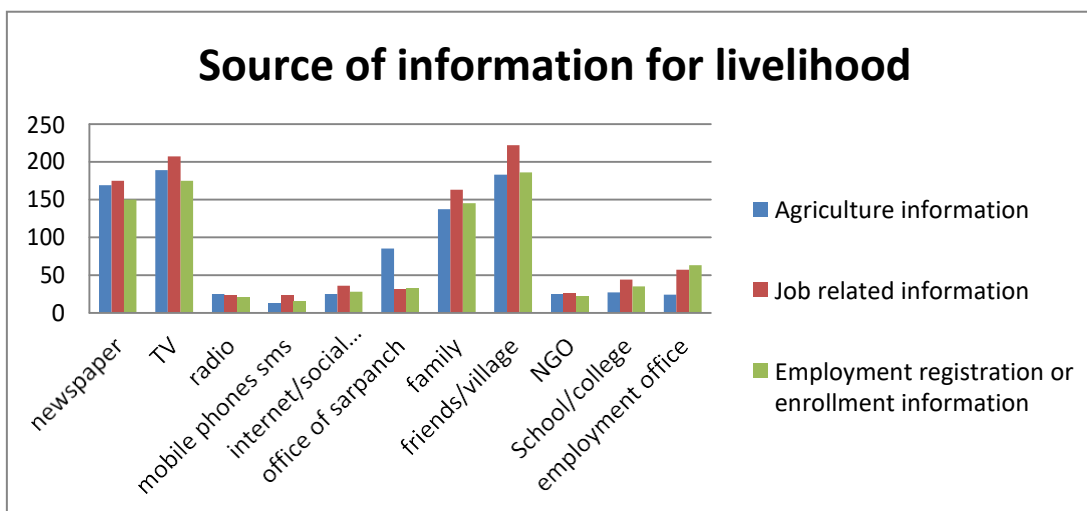
Television is the highest source of information across all education related information categories except information related to school admissions, scholarships and career in which friends/villagers rank the highest. Overall, television and friends/villagers rank as the first and second sources of information respectively. Comparing across information categories with television and villagers/friends as a source of access to information, both television and villagers/family are more likely to be the source for higher education related information than career related information. Access to information on mobile phone through SMS rank the lowest among bottom four along with radio, NGO/ Social Worker and social media as a source of information. However, among the bottom four sources of information, access to information via social media ranks the highest overall outranking the other three across all information categories.



Livelihoods:

The village community and friends, TV, newspaper and family are the most sought out sources for accessing information related to livelihoods. Amongst them, village and friends remains the widely used medium to access information regarding agriculture, jobs and employments, although it ranks the highest for seeking job related information. While television ranks the highest for agriculture related information.

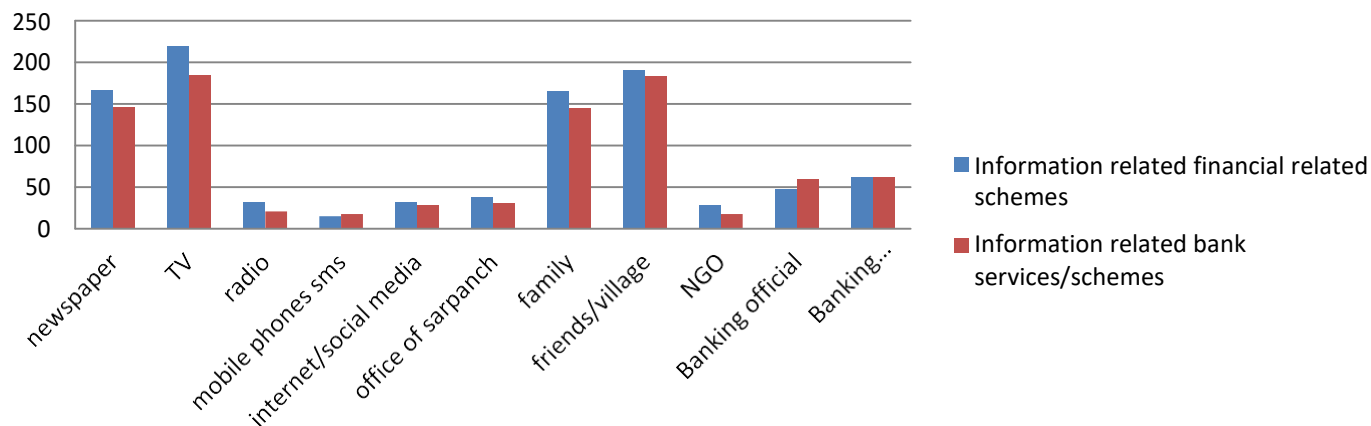
However, comparative intra-category analysis shows that TV is more likely to be the source of job related information; the employment information is again sought from Panchayat and Employment office. As far as mobile is concerned, their use remains fairly low across all the sources. Access to information via mobile phone through internet is mostly used for availing job related information (10%) followed by employment registration (7%) and lastly agriculture (6%). Radio is used mostly for availing agriculture and job related information at 6% each and for employment registration or enrolment information at 5%. NGOs and social workers also have a very limited role in providing livelihood related information. 17% people have access to information on employment registration and enrolment information from the employment office.



Financial Inclusion:

Television is the most popular medium to source information related to financial inclusions. However, TV is more likely to be the source of information for financial schemes rather than bank related schemes. Banking correspondent rank fourth with respect to with respect to providing information for banking and financial schemes. However, bank officials are more likely to be the source of information on banking services/ schemes rather than financial schemes. This indicates that the potential role played by a stakeholder within an ecosystem is likely to be limited by their operational mandates and interests thereby highlighting the need for anchoring sustainable community-owned last mile access to information ecosystems that are able to serve the diverse needs of the community in moving towards equitable and inclusive development. The information ecosystem in relation to financial inclusion is dominated by mass media like newspapers, TV and social ties of friends/villagers and family.

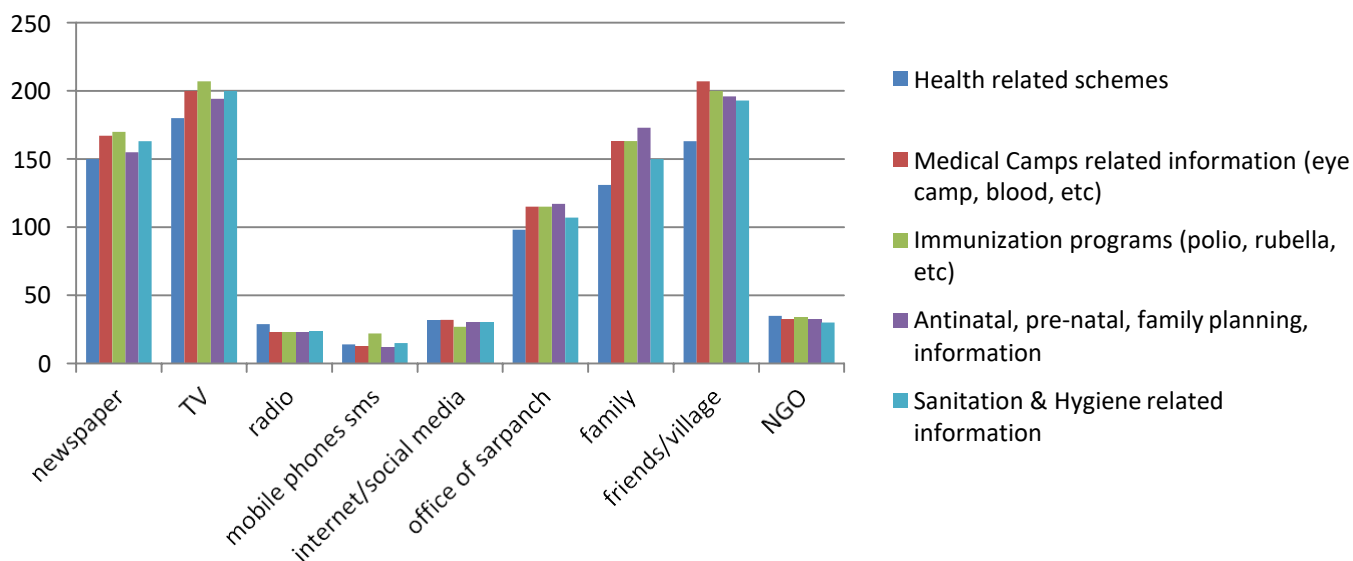
Source of Information on Financial Inclusion



Health:

With regard to access to information related to health, Television rank as the highest source of information followed by friends/villagers. Though TV rank high across all information categories, they are more likely to be the source of health related schemes, Immunization programs, and sanitation and hygiene related information rather than antenatal, prenatal and family planning information. Given the importance of personal network within this intimate information category, it is important to note that Friends/ Village Members rank higher than Family as a source of information across all information categories. Access to information via mobile phones, whether through SMS or video content storage, or internet, rank among the bottom five as a source of information along with Community Radio and NGO/ Social Worker.

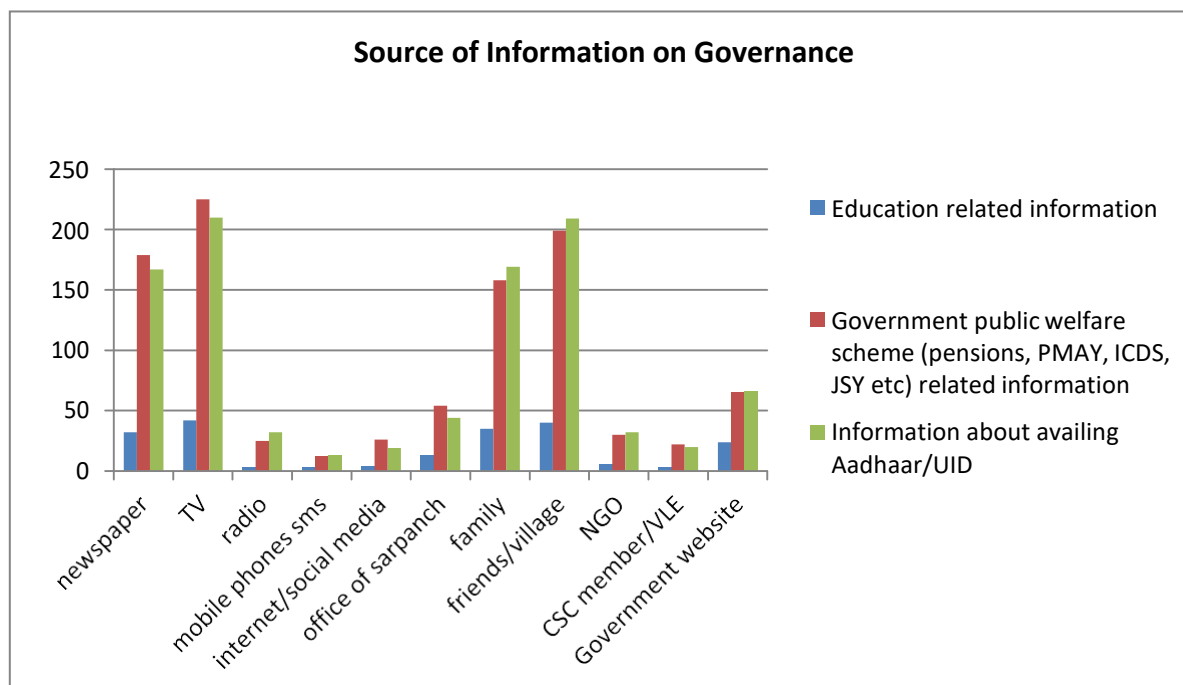
Source of Information on Health



Governance:

Out of 375 people only 18% people are aware of any social protection schemes, highlighting the barriers in access to information. Out of the 70 respondents who are aware of government schemes, majority get the information from television (60%) and village member (57%). Though TV ranks as highest source of health information, it rank below friends/villagers as a source of information on medial camps and family planning schemes related information. Access to information of government schemes related to education remains low overall.

Majority of the people receive information related to government public welfare scheme (like pensions, PMAY, JSY etc.) and Aadhaar/ UID from TV, followed by friends/villagers. Newspapers also have a significant share of 48% for public related information and 45% for Aadhaar/UID. Mobile phones through SMS as well as Community Radio have the lowest contribution. Panchayat office has only 14% share in providing information but this can be seen only with respect to government schemes related information. This highlights the limited role that Panchayat, as a local governance unit, is playing for providing information on social protection and entitlements as well as CSC centres that help in creating scheme linkages. Access through NGO/Social Worker, Phone Storage and internet is very low. Phone SMS has the least contribution and Community Radio also has a minimal role in providing information regarding health schemes.



Access to services

Education:

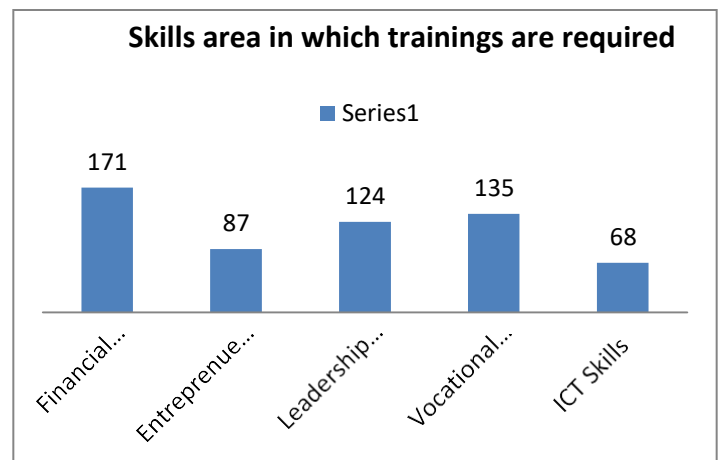
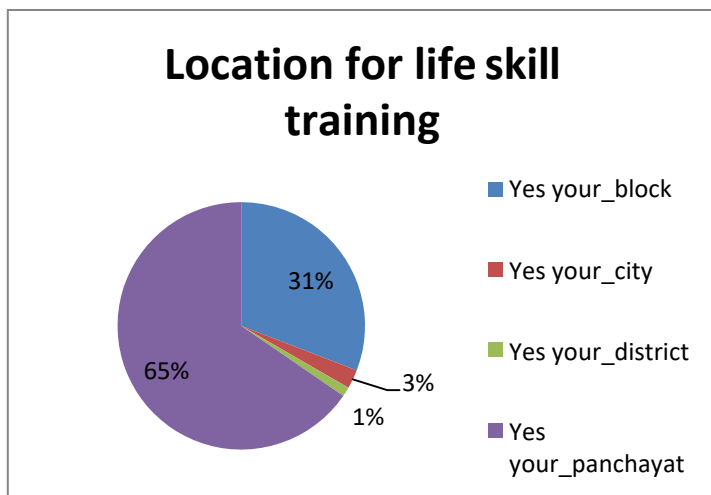
Only 12 out of 375 (3%) respondents reported having a digital literacy centre in their village. Out of the 12 who reported having a digital literacy centre 7 were from Vadarevu village. These 7 respondents from Vadarevu represent 17% of the total number of respondents from Vadarevu indicating that despite presence of a digital literacy centre in the village not all might be aware of it. Further, out of those reported having a digital literacy centre in their village only 1 has taken up a digital literacy course. Given the increasing importance of the internet in full digital participation, a constraint in limiting full participation in digital literacy courses could be the lack of internet connectivity.

Only 3% (i.e. 12) of the total 375 respondents reported having a vocational centre in their village. Out of these 12, 11 belong to Thotavaripalem and 1 from Vadarevu. 17 (5%) out of 375 respondents reported having a career guidance centre in their villages. 13 respondents who have a career guidance centre belong to Kavuri vari palem village. This indicates that though the career guidance centre is present in the village, but a significant proportion of the population from Kavuri vari palem are not aware of its presence.

Livelihood

Only 9 respondents reported that women from their families go for vocational training program and they have to travel a distance of 1-12 kms to attend it. Distance of vocational training centers is potentially a significant barrier to women's capability development and low levels of women's participation in vocational and skills training. 65% of the respondents said that they would like to attend the skills training program in their panchayat. Only 1% people have received any agriculture related training or support over last one year.

When asked about the skill areas in which the respondents require training, 45% (171) respondents want training in financial literacy, followed by 36% (135) respondents in vocational skills, 33% (124) in leadership and life skills while 23% (87) in entrepreneurship. Only 18% (68) out of 375 respondents wanted training to be provided in ICT skills.



Financial Inclusion:

Out of 375 respondents only 29 said that they have Point of Sale (POS) access centre in their area. The villages that have POS centre are Burlavaripalem, Lohiyapuram and Vadarevu.

74 and 31 people have access to banking correspondent and banking kiosk respectively.

Only 54% of the respondents know how to use an ATM machine and 65% of the total respondents have credit/ debit cards. 25 out of 29 people who responded having a POS access centre in their village also have credit/debit card. 76% of the people are not even aware of different types of banking available. Majority of the people who are aware, 66% prefer direct banking. This is because in the absence of access to information and infrastructure relating to alternatives like internet/ mobile/ online banking this is the only form of interface they have had with banks. Out of 375 respondents around 11% prefer online banking.

Health:

Only 4 respondents reported having a diagnostic lab in their village. These include 2 from Vadarevu, 1 from Papaipalem, 1 and 1 from Ramannapeta. These represent 5% of the respondents from Vadarevu, 2.3% from Ramannapeta, and 2.5% of Papaipalem. Out of the total respondents 35.4% reported visiting hospital at least once a month, 24% reported visiting the hospital half yearly and 21.3% reported having visited a hospital once in a quarter. 65% (243) of the total respondents do not have a telemedicine facility, 25% did not know what telemedicine was and only 10% had a telemedicine facility. Of the 38 people who responded having telemedicine facility, 35 were from Burlavaripalem and one each from Rangappanidu vari pale and Thotavaripalem. 97% of respondents from Burlavaripalem reported using telemedicine facility in the village shows the strong presence and availability of the service there.

Governance:

62% of the total respondents are not availing government schemes and entitlements; this can be as a result low levels capability with regard to interfacing with e-governance as indicated by 36% who were unable to apply for certificates online. Only 6% people have reported any type of grievances related to government schemes. This may be because of the low access to information about basic rights and entitlements. . It is evident from the fact that only 18 out of 375 people know about RTI. Among the respondents who availed the schemes and entitlements, social security pensions helped 60% people followed by NREGA with 27% people benefiting from it. Given, a large section of the population lacks access to information about governance schemes which curtails their ability to avail social protection that they are entitled to, this provides scope for intervention with regard to providing last mile access to information through programmatic intervention like the DEF flagship SoochnaSeva and SoochnaPreneur model using designated access points and ICT enabled community members to provide last mile access to information on social protection schemes that have managed to expand coverage to approx. 20-25% of eligible populations in intervention locations.

Entertainment

When it comes to availing the local options for entertainment, 143 respondents prefer going to cinema hall, 93 prefer movie theatre, followed by 43 respondents who prefer going to community hall for the purpose of entertainment. 50 respondents prefer going to cinema hall and movie theatre.

Patterns of online usage

Education:

Out of the 12 respondents who reported having a computer/digital literacy centre in their village, 11 have not availed a digital literacy course, 7 of these respondents belong to Vadarevu, 2 from Burlavaripalem and 1 each from Thotavaripalem and Kavurivaripalem. 1 person who reported as having a digital literacy centre in their village and availed a digital literacy course belongs to Thotavaripalem. This underscores a greater need for engagement with the local community with regard to availing digital literacy. Only 31% of the respondents have registered for higher education course online. However, among the 117 people who register online, only 30 reported as having internet connectivity. The gap between low internet connectivity and comparatively higher levels of engagement show that people might potentially be using common access points like cyber cafes, CSC, and schools or shared connections.

Livelihoods:

17 of total respondents have registered themselves on the job portal, out of them 5 were from Ramannapeta villages, followed by 3 respondents each from Burlavaripalem and Papaipalem village and lastly 2 each from Rangappanidu vari palem and Thotavaripalem village. 12 own smartphones, and only 9 reported as having internet. Only 7 people out of 375 reported as using Skype for online job interviews. Out of those who used Skype for online interview, modes of access reveal a mix of mobile phones, own CSC, and cyber-café with mobile phones and cyber cafes ranking the highest in terms of access points. This reiterates the importance of common access points for areas with limited internet connectivity.

Financial inclusion:

Only 24% of the respondents know about different types of banking. Out of that direct banking ranks the highest in terms of the preferred mode of banking followed phone banking and online banking respectively. Out of 375 respondents only 23 use online mode of money transfer, whereas majority of the people i.e. 280 (75%) still prefer direct banking for financial transactions. Out of 375 respondents, 118 own a smartphone out of which 79 respondents access internet, Moreover there is a gap between smartphone ownership, internet connectivity and the overall digital engagement as a result the extent of digital financial inclusion remains fairly low in terms of using online banking (19 respondents), activated internet banking (29) and online financial transaction. The low digital financial inclusion is not just the result of few people using internet but also the quality of service, which plays an important role with only 59 out of a total of 107 respondents who have an internet connection, found the internet quality as good while 30 out of 107 found the quality as satisfactory and 18 found it as bad. Only 75 respondents out of

375 pay their utility bills online irrespective of the fact that only 25 people have activated internet banking facility.

Health:

Only 3% (11) of the total respondents book appointments online while 97% do not book an appointment online. Out of the 11 respondents who reported being able to book appointment online 5 are from Pathachirala which is also the hub centre, followed by 3 respondents from Ramannapeta and one each from Vadarevu, Burlavaripalem and Rangappanidu vari palem respectively. Cash remains majorly the mode of payment for hospital bills amongst the respondents with 85% (319) preferring it over 2% who opt for card payment and mere 1% who opt for online mode. Out of 375 respondents, 31% (118) are owners of a smartphone and 33% (79) out of 118 have an active internet connection, but none of these 79 of the respondents pay their hospital bills online, which signifies that there's a gap between ownership and online engagement, i.e. even though people are reported to be using internet connection, still they have a limited online engagement. Thus more information regarding the various other usage of internet in arena of accessing healthcare can be provided to the population at large and providing better quality of internet can help reducing the gap that has been identified above.

Only a negligible proportion of the respondents (<1%) purchase health related items online whereas an overwhelming 99% do not. Out of the 63 respondents who have health insurance, only 5 renew it online, which corresponds to 8% of the total number of respondents. However, out of these 63 respondents 31 are from Thotavaripalem and from these 63 respondents, 28 have smartphones (with 11 people owning smartphones in Thotavaripalem itself).

Governance:

21 out of 375 reported grievances related to government schemes, 11 preferred the offline method. Only 7 out of 18 people filed an RTI, out of which only 2 people filed it online. Around 64% respondents were not able to apply for the certificates like birth/ death certificate, Aadhaar card, voter ID etc. online. Out of the 136 respondents who were able to apply for certificates online, 38 were from Burlavaripalem, 31 from Thotavaripalem and Lohiyapura each. Out of these 136 respondents who were able to apply for certificates online, 51 had smartphones and only 34 of them reported as having internet connectivity. This can potentially indicate that it is highly likely that they access these services through shared connections and common access points like cyber cafes and CSCs. This highlights the low levels of digital engagement and interface of citizens in accessing government services.

Entertainment

Keeping in line with the patterns of online usages and practices mentioned above, only close to 10% pay for entertainment online. Out of these 39 people, only 28 people use apps for online transaction and 18 of these 28 have activated internet banking. 64 respondents in total responded of using online entertainment. When asked about the type of online entertainment used, an overwhelming 97% of 64 respondents use YouTube while 50% play games online and lastly 42% watch movies online. Those respondents who watch YouTube, 54 have smartphones with only 30 respondents having a memory card, 13 do not have internet connectivity. This can indicate practices of shared connection and devices usage and downloading and storing content

on memory cards to be accessed later, a practice that is not uncommon in areas of low connectivity

Key Recommendations

Cross-cutting recommendations:

- Understand individual and institutional access requirements that can act as barriers to realizing key development objectives across programme pillars
- Develop a strategy to integrate available capacities and institutional and infrastructural presence when defining programme outcomes
- Focus on developing an integrated access to information and access to services ecosystem that takes into account current patterns of online uses and practices with steps to leverage and augment them through sustained and targeted programme intervention
- Identify gaps between available capacities, aspirations, and uses and practices to define horizontal cross-cutting targets required for the overall success of the programme
- Identify how digital media can be used to democratize access to information and access to services
- Identify local institutions and stakeholders to act as nodes to disseminate information and awareness as well as serve to anchor the programmatic intervention in moving towards a sustainable model
- Re-examine relationships between Hub and Spokes

Education:

- Understand and define the functional aspects of digital literacy as per pillar wise requirements and define concrete parameters of measurement
- Identify different learning needs for different demographics with a focus on developing future capabilities in the village by integrating STEM education in classrooms
- Develop villages like Vadarevu, Thotavaripalem and Ramannapeta which have more concentration of population knowing about digital literacy and can have preliminary access to digital technology.
- Generating more awareness amongst villagers regarding available services like digital literacy centres and vocational centres in their villages, its benefits and outcomes.
- Providing training to villagers owning smartphones about the various uses of internet for educational purposes and making use of digital media overall for educational, vocational training and even school or college related information.

Health:

- More emphasis can be given in terms of access to information related to healthcare through mobiles and internet facility, along with availing the services of healthcare which are online.

- Increasing awareness regarding telemedicine facility in village and encouraging villagers to utilize the facility.

Governance:

- Raising awareness about government welfare schemes, and promoting the use of digital media for accessing information about welfare schemes and services.
- Strengthening local governance institutions

Livelihood:

- Promoting the use of digital media for accessing livelihood related information.
- Map opportunities for training and capacity-building and potential livelihood opportunities available in the village
- Identify and evaluate potential livelihood opportunities in terms of local viability, feasibility, and sustainability

Financial Inclusion:

- Making people aware about the banking facilities over digital media and strengthening the capacities of banking correspondent for providing information related to financial services and banking schemes.
- Conducting awareness sessions regarding different types of digital banking in the community.

Entertainment:

- Examine individual and community needs for entertainment
- Identify practices for accessing entertainment content online