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# Assessment of an ICT-based Training Programme for Mid-Day-Meal Cooks-cum Helper (CCH) in Varanasi and Dhenkanal

## Baseline Report

Prepared by  
India Development Foundation

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## ACKNOWLEDGMENT

At the outset, the assessment team wants to express our heartfelt gratitude to the Cook-cum-helpers who kindly agreed to participate and patiently answered all the questions as part of the study. We also want to thank the school management team for accommodating our visit and providing their insights.

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# Contents

EXECUTIVE SUMMARY	4
1. INTRODUCTION	8
1.1 Rationale and objective of the baseline	9
2. METHOD OF CONDUCTING BASELINE	9
2.1 Study Design	9
2.2 Sampling	9
2.3 Pre-testing of the questionnaire and data collection	10
2.3 Informed Consent and Confidentiality	10
2.4 Data Analysis & Using Results	10
2.5 Limitations and Challenges	11
3. FINDINGS	12
3.1 Sociodemographic characteristics	12
3.2 Ownership and accessibility to mobile phone	15
3.3 Knowledge of ICT	17
3.4 Attitude towards ICT	18
3.5 Practice followed towards use of ICT	26
3.7 Attitude on carrying out their job responsibility	37
3.8 Practices followed while working in their jobs	40
4. RECOMMENDATIONS	44

# EXECUTIVE SUMMARY

## CONTEXT

The Mid-Day Meal (MDM) scheme, a school meal programme of the Government of India (GoI), guarantees one meal to all school-going children from class 1 to class 8 to improve enrolment, retention, and attendance in addition to enhancing their nutritional levels. The scheme envisages delivering the meal, cooked in safe and hygienic environment. To ensure the programme's smooth operation, the scheme has made provisions of essential infrastructure such as the kitchen-cum-stores, kitchen devices, and human resources such as cooks. In order to ensure that good quality food is provided in schools, the government has prepared the guidelines for Cook-Cum-Helpers (CCHs), keeping aspects of quality assurance and safety as its integral part of food handling procedures in school kitchens. The government has directed education departments in the states to get all midday meal CCHs trained by "master trainers" through Institutes of Hotel Management (IHMs) and Food Craft Institutes (FCIs).

Having recognized the criticality of the role of the CCHs as being pivotal to the delivery of an effective and efficacious mid-day meal scheme, the UN World Food Programme proposed to invest in their capacity building as part of their ongoing projects in Dhenkanal, Odisha and Varanasi, Uttar Pradesh.

These joint efforts are aimed at enhancing the MDM scheme's efficacy by providing capacity strengthening and technical assistance through pilot interventions in Dhenkanal and Varanasi. The interventions are designed to deliver information and communications technology (ICT)-based trainings to all the CCHs (cook-cum-helpers) and fill their critical knowledge gaps.

## BRIEF OVERVIEW OF THE STUDY

The study aims to assess the effectiveness of the intervention through a quantitative assessment of the knowledge, attitude, and practices (KAP)<sup>1</sup> of the CCHs towards e-learning and their jobs as it is being carried out, before (baseline) and after (follow-up) the intervention.

The study first looked into sociodemographic characteristics of the respondents to describe the profile, assess their prior exposure, Knowledge, Attitude and Practices towards ICT etc., to put the survey results into context. Thereafter, the study benchmarks the status of Knowledge, Attitude and Practices of CCHs towards their job responsibilities at school.

## BRIEF OVERVIEW OF THE METHOD

For the baseline study, there are 331 intervention schools in the two intervention blocks: 180 in the Kamakhyanagar block of Dhenkanal district and 151 in the Cholanpur block of Varanasi district. A sample of 65 and 60 intervention schools were randomly selected in each of the two intervention locations respectively.

All the CCHs were administered two kinds of questions as part of KAP surveys. First, close-ended questions which required the CCHs to select multiple answers from the choices made available to them. Second, where a statement was put forth (Likert scale) to the CCHs, and they were asked if they agreed or disagreed with the same on a scale of 1 (negative response) to 5 (positive response).

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<sup>1</sup> A KAP survey is a study of a specific population to collect information on what is known, believed, and done in relation to a particular topic — in this case, Kitchen Food Safety & Hygiene Practices & use of ICT.

## FINDINGS

**Sociodemographic Characteristics:** The sampled CCHs both in Dhenkanal and Varanasi has been a heterogenous group in terms of age, marital status, social status, and levels of education. Average age of CCH is 44 years in Dhenkanal and 42 years in Varanasi. Majority of the CCHs were married and a considerable proportion was widowed. Generally, the levels of education among CCHs were very poor in both locations and a big proportion of them was either illiterate, literate non-formally or educated only up to primary school. Majority of the CCHs belonged to Other Backward Classes (OBC) in both locations and at least one third of the CCHs covered in our sample came from resource poor background as they possessed either BPL or AAY cards.

**Ownership and accessibility of mobile phones:** Almost a third of sampled CCHs in Dhenkanal and close to 43% in Varanasi did not own a phone. However, close to 90% CCHs in Dhenkanal and 93% in Varanasi who do not own (a) phone' still had access to phone. Smart phone ownership was very low among CCHs-9% in Dhenkanal and 8% in Varanasi. Most of the CCHs owned feature phones- 59% in Dhenkanal and 49% in Varanasi.

### Knowledge, Attitude & Practices (KAP) around ICT

**Knowledge of ICT:** Majority of the CCHs in both locations are aware of most basic features in mobile phones such as voice and video calls, sending and receiving messages, clicking pictures, and playing games. The exception is 'surfing information on the internet'; where awareness levels were lower than the other mobile phone features.

**Acceptability and comfort level with ICT environment:** Acceptability of training through the App is low among CCHs. Only about 5% and 3% of the CCHs in Dhenkanal and Varanasi respectively showed interest in getting trained through the App. In fact, 93% CCHs in Dhenkanal and 86% in Varanasi think they will require help form another person while learning on a smart device.

**Attitude towards technology:** Majority of the CCHs in Dhenkanal agree that learning through smart gadgets helps acquire new knowledge and enhances learning experiences. The bulk of their Varanasi counterparts do not feel so. CCHs in both locations associate e-learning with convenience, as well as being a medium that enables easier revision compared to print. Majority of them are willing to devote extra after-school hours to learn cooking practices and new technology.

**Practices prevalent towards ability, comfort, and usage of ICT:** About half the populations in both the location are skilled to operate mobile phones without assistance. Most CCHs, in both locations, are comfortable with using feature phones, and mostly do so to make calls and they are currently more skilled in using voice calls only compared to other features of the phone. They find features like voice calls, video calls, sending and receiving messages most useful. CCHs in Dhenkanal find mobile phones with more functions, more beneficial than those in Varanasi.

### Knowledge, Attitude & Practices (KAP): Job Responsibilities of CCHs

**Knowledge of their job:** The findings here are much varied for both locations across topics. In fact, the findings below suggest that there is a huge scope for incremental gains with the training on the Knowledge of the job itself. One of the key areas of improvement for CCHs in Dhenkanal is on matters related to 'method of cooking for retaining nutrients.' Similarly, there is also a huge scope for improvement in the depth of

understanding on each of the topics as only about one fourth CCHs in Dhenkanal could cite more than two reasons as to why meals should be cooked with the lid closed. Similarly, only about half of the CCHs surveyed could list one benefit of cooking the single meal and nearly one third of them could cite more than two steps to be taken in case of emergencies related to children falling ill after consuming MDM. However, CCHs in Dhenkanal were marginally better informed about the sources and modes of contamination and method of cooking for retaining nutrients, procurement, and storage of raw material.

Meanwhile, CCHs in Varanasi knew more about the benefits of cooking single meals. None of the CCHs in Varanasi could cite more than two reasons as to why meals should be cooked with the lid closed and here also the two most common reasons cited were to prevent insects and other contaminants from falling, and to cook food faster. Majority of the population could list at least one benefit of cooking the single meal and very few of them could cite more than two steps to be taken in case of emergencies. They are better informed about personal hygiene. This includes topics such as the propriety of wearing of accessories while cooking and cleanliness of kitchen and utensils. CCHs in both the locations have low awareness on waste disposal.

**Attitude on carrying out their job responsibility:** CCHs in both locations have almost similar and positive attitude with regard to cleanliness of kitchens, tasting and serving of the food that they prepare, and preventing contamination. However, the area of concern among CCHs in Dhenkanal have been their attitude towards their roles and responsibility, as a considerable proportion of CCHs thinks that it is only MDM teacher-in charge's responsibility to maintain nutrition and hygiene standards. At the same time, the area of opportunity had been that though at least half of the CCHs were satisfied with their current knowledge, , majority of CCHs in both the locations are still willing to attend trainings on cooking practices and job-related functions, even if these are held after their working hours. Their willingness to learn even after the working hours shows their keen interest in learning

**Practices followed while working in their jobs:** The practices of CCHs are varied for both locations depending on the tasks at hand. A considerable percentage of CCHs do not follow correct practices with regard to procurement and storage of raw material, healthy cooking methods and personal hygiene in both the locations. However, among many aspects of their daily job, CCHs in Dhenkanal are deploying marginally better practices in matters of procuring ingredients, being cautious about contaminants, tasting and serving the food they prepare, and also personal hygiene. CCHs in Varanasi perform better with regard to following healthy cooking methods and keeping kitchens and utensils clean.

## RECOMMENDATIONS

1. **Conduct an ICT-Orientation Session:** The findings suggest a low level of acceptance for training through the App, and that most CCHs find operating smart devices difficult and require help to do so. Therefore, the programme will do well to have initial orientation session to increase the CCHs' familiarity with technology before start of training. The orientation sessions may focus on boosting the morale of CCHs towards use of ICT, having a positive learning attitude, counter social norms that inhibit use of ICT by women etc.
2. **Encourage Peer Support/Buddy System:** Based on the interest and retention by younger people, the programme should encourage younger and more educated CCHs to take on leadership roles or peer support to older, lesser educated CCHs to generate and maintain interest levels, and also to assist active participation by others.
3. **Modules/Assessments should prioritise and emphasise on the consequences of 'Modes of Contamination':** Under the practices being followed by the CCHs, although considerable proportion of

CCHs are following the correct practices to prevent the issues of contamination, there is a small yet critical proportion of CCHs who do not follow the correct practices. This may lead to immediate serious health consequences of children. Therefore, appropriate emphasis on the seriousness of the consequences should be provided through modules. The programme team may include few questions on this aspect and any difficulty in understanding of such concepts should be resolved through schools' authorities (headmasters/nodal teacher concerned.)

4. **Encourage active participation by CCHs in e-learning:** Since levels of education among CCHs are very poor, the only way to make them learn about the ICT based programme is through actively supporting them to get functional literacy too. The potential ways can be to include teaching staff on a rotational basis to help them get comfortable with the device, group based practice of on a weekly basis and even instituting competition and reward for good performers may be a good way to incentivise CCHs.

# 1. INTRODUCTION

The Mid-Day Meal (MDM) scheme, a school meal programme of the Government of India (GoI), guarantees one meal to all school-going children from class 1 to class 8 to improve enrolment, retention, and attendance in addition to enhancing their nutritional levels. The scheme serves 115 million children across 1.1 million schools and has a total annual budget of USD 1.5 billion. The cost of the MDMS is shared between the central and state governments. The central government provides free food grains to the states. The cost of cooking, infrastructure development, transportation of food grains and payment of honorarium to cooks and helpers is shared by the centre with the state governments.

The scheme envisages delivering the meal, cooked in safe and hygienic environment. To ensure the programme's smooth operation, the scheme has made provisions of essential infrastructure such as the kitchen-cum-stores, kitchen devices, and human resources such as cooks. There are in total 2.5 million cooks-cum helper (CCHs) in India that uses 2.6 million tonnes of food grains to cook hot cooked nutritious meal for school children. Further, these local CCHs manages critical job responsibilities such as handling kitchen, cooking, and distribution of food to students<sup>2</sup>. For ensuring good quality food is provided in schools, the government has prepared the guidelines for CCHs, making quality assurance and safety an integral part of food handling procedures in school kitchens. The food provided through these kitchens is expected to adhere to food safety and quality norms, and be nutritious, free from food adulterants, contamination pathogens, artificial non-food grade colours and additives. The human resource development (HRD) ministry in 2017 directed education departments in the states to get all midday meal cooks-cum-helpers trained by "master trainers" through Institutes of Hotel Management (IHMs) and Food Craft Institutes (FCIs). In addition, ministry also initiated training of cook cum helpers in 2017-18 in association with an NGO Akshaypatra in the State/UTs.

## Need for the pilot intervention by WFP

Despite Government's guidelines on food safety and hygiene that includes procurement, distribution and also matters of waste management, the lack of awareness among CCHs on all such matters is a concern. Despite Government's initiatives on training CCHs, it is less likely to reach all CCHs any soon as the trainings are irregular. As a result, very few CCHs get an opportunity to participate in the face to face trainings. In this context and also having recognized the criticality of the role of the cook cum helpers as being pivotal to the delivery of an effective and efficacious mid-day meal scheme, UN World Food Programme proposed to invest in their capacity building through ICT based learning platform as part of their ongoing projects in Dhenkanal, Odisha and Varanasi, Uttar Pradesh.

## Objective of the intervention

The key objective of the WFP's intervention is to deliver ICT-based trainings to all CCHs involved in MDM and fill their critical knowledge gaps on Kitchen Food Safety & Hygiene Practices.

## Need for the Assessment

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<sup>2</sup> They are largely women from the local area between the age group of 18 to 60 years, belonging to socio-economically deprived community. While selecting them for the job, priority is given to destitute women belonging to socially backward class. Their main role is carrying out cooking MDM for school children, while ensuring food safety and hygiene practices in prevention of any health hazard



The study's aim is to assess the effectiveness of the ICT based training in improving the CCHs' knowledge, attitude and practices (KAP)<sup>3</sup> towards their job responsibilities at school.

## 1.1 Rationale and objective of the baseline

### Rationale

The rationale for the baseline is to assess the current status on knowledge, attitudes, and practices (KAP) of CCHs towards e-learning and implementing their job responsibilities. It will provide a critical reference point for assessing changes in KAP indicators around the CCHs job responsibilities, further, the study also identifies needs, problems and barriers related to ICT enabled training from CCH's perspective. The baseline analysis will also suggest solutions for improving quality of implementation.

### Objective

The main objectives of this baseline study will be to identify the following:

- 1) Describe the socio-demographic makeup of the programme locations, for better understanding of the target group
- 2) Benchmark current levels in terms of knowledge, attitudes, and practices of CCHs towards ICT and food safety and hygiene practices
- 3) Generate information, highlight issues, barriers in programme delivery and act as a feedback mechanism to inform the programme.

## 2. METHOD OF CONDUCTING BASELINE

### 2.1 Study Design

The study aims to assess the effectiveness of the intervention through a quantitative assessment of the knowledge, attitude, and practices (KAP) of the CCHs towards e-learning and their jobs as it is being carried out, before (baseline) and after (follow-up) the intervention as a longitudinal panel study.

The study first looked into sociodemographic characteristics of the respondents to describe the profile, assess their prior exposure, Knowledge, Attitude and Practices towards ICT etc. to put the survey results into context. Thereafter, the study benchmarks the current status of Knowledge, Attitude and Practices of CCHs towards their job responsibilities at school.

### 2.2 Sampling

For the baseline study, there are 331 intervention schools in the two intervention blocks (as per the list provided by the WFP office); 180 in the Kamakhyanager block of Dhenkanal district and 151 in the Cholapur block of Varanasi district. A sample of 65 and 60 intervention schools were randomly selected in each of the two intervention locations respectively, in turn adding up to make for about 125 schools in the two project areas, Varanasi and Dhenkanal. The sample represents about 36% and 40 % of the total intervention schools instead of 30% as had been decided at the initial stage. Given the study design, these same CCHs will be surveyed again for the follow-up assessment. However, considering that it is a panel study, in order to avoid issues of attrition of CCHs (because they are not permanent

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<sup>3</sup> A KAP survey is a study of a specific population to collect information on what is known, believed, and done in relation to a particular topic — in this case, Kitchen Food Safety & Hygiene Practices & use of ICT.

employees) after some time and it might make it difficult to trace all of them, and hence the sample size was increased for the study. This will ensure that we still have enough samples for the assessment of the programme comprising panel dataset of 250 surveys with CCHs. If there were more than one CCH in particular intervention school, then the CCH was selected randomly from the group for administering the survey instrument.

### 2.3 Pre-testing of the questionnaire and data collection

The KAP instrument on food safety and hygiene primarily consisted of close-ended questions broadly divided into six parts. These included: Demographics and household indicators; Access to phone; Knowledge of CCHs about ICT and carrying out their jobs; Acceptability and attitude of CCHs towards ICT and in carrying out their jobs; Practices CCHs follow towards ICT usage and in carrying out their jobs.

The survey instrument was translated in the local language. The instrument was converted into a survey CTO application, which could be installed on the tablets for data capturing. A team of six women investigators and one male supervisor was constituted to conduct the survey in Dhenkanal district. A day-long training programme for the investigators was conducted on 2nd November 2020 by a senior IDF evaluation team member. The investigators were briefed on the objective of the study, and the appropriate way of asking each question in the questionnaire. The questionnaire was tested in three schools on 3rd November 2020 before the survey was conducted. These three schools were not part of the list of 65 schools sampled for the baseline, as this would pose the risk of influencing the answers in the baseline if the same schools were revisited. The feedback and suggestions considered relevant from the pre-testing phase were incorporated in the questionnaire to be used for the baseline survey. The baseline survey began on 4th November 2020 and continued for a week. Similarly, a team of five women investigators and one male supervisor was constituted to carry out the survey in Varanasi district. Three schools were selected for pilot testing of the questionnaire and same set of exercises, as implemented in Dhenkanal, was carried out in Varanasi for a week, starting 2nd January 2021. Monitoring of the data collection was done for three days by the evaluation team.

### 2.3 Informed Consent and Confidentiality

The ethical considerations were made to ensure that all the investigators were thoroughly briefed about steps to be followed while collecting the data. For instance, participants were trained on concepts like voluntariness, anonymity, confidentiality, and data protection. The interviewers ensured all the necessary disclosures were made prior to the interview. For instance, explaining the objective of the study to the respondents before they took their consent for the interview. All ethical considerations were explicitly mentioned in the instrument.

### 2.4 Data Analysis & Using Results

The sociodemographic data was collected and analysed to describe the profile of the respondents in terms of age, sex, marital status, social status, and levels of education. This helped us put the survey results in context.

Since, the objective of the assessment is to assess the effectiveness of ICT based learning platform in improving the Knowledge, Attitude and Practices among the CCHs around their job responsibilities, the study also attempted to understand the CCHs prior exposure and experience with ICT, their acceptance of such new technology, their comfort with ICT, etc. This may further help the programme team to get insights on making the ICT mode of trainings more effective by considering ways to mitigate the existing ICT related challenges of CCHs.

Through this KAP study, gaps in CCH's knowledge were identified by comparing the percentage of CCHs

who gave the correct answer(s) to a question with that of CCHs who did not know the answer(s). Gaps in practices were identified by comparing the percentage of CCHs employing an optimal or desired practice with that of CCHs who do not. Gaps in attitudes were determined by comparing the percentage of CCHs who gave the desired or positive response with the percentage who gave a negative or noncommittal response. Further, all such findings were represented at the district level, separately.

## 2.5 Limitations and Challenges

- During the field visits, it was observed that the time available to CCHs, and in turn their attention spans, are scarce and limited. Many questions, over a length of time, gets them unfocused and answering anything just to get away. Therefore, it was difficult to cover every aspect of the topics covered in the modules.
- Both Dhenkanal and Varanasi have been exposed to WFP interventions prior to this study. The WFP intervention already implemented involved sensitisation and capacity building of the CCHs. Therefore, the improvement in the CCHs' knowledge, attitude and practices due to this study alone may be detectable with minimum effect. Our study is aware of this limitation.
- During our initial field visit to calibrate the study questionnaire and data collection exercise, we noticed that most schools lacked the resources required to enable the CCHs to follow the programme's training modules. For instance, the programme trains CCHs to cut vegetables on tables or raised platforms and using blue and green dustbin separately for waste disposal. In fact, the kitchens of many schools have no raised platform/tables, nor do they have any separate dustbin for waste disposal. Therefore, the study has refrained from including questions based on topics, where there were supply side barriers.
- Many questions posed through the KAP tool are hypothetical questions and should only be treated as preference of the respondents depending on the circumstances and may not be a stable viewpoint.
- Since KAP survey is based on self-reported statements, responses are influenced by the judgement, cooperation, and memory of the respondent as well as by the surveyor's skills. For this reason, it would be ideal to have the same team of surveyors to collect information during the baseline as well as in the end line assessment. However, risk of not getting the same investigators can be a potential limitation.

### 3. FINDINGS<sup>4</sup>

#### HIGHLIGHTS

- Average age of CCHs: Dhenkanal- 44 Years; Varanasi: 42 Years
- Majority of CCHs have poor levels of education in both locations; illiteracy very high among CCHs in Varanasi
- A considerable percentage (close to 40%) of CCHs are widows in both locations
- Majority belong to OBCs in both the locations
- Majority of CCHs are poor; about 40% of CCHs possess either BPL/PHH or AAY cards

#### Sociodemographic Characteristics

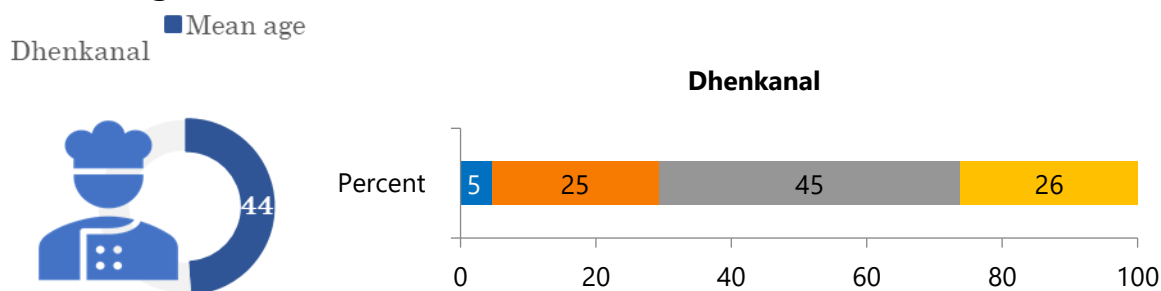
As per Government norms<sup>5</sup>, one of the many objectives of the MDM programme has been to provide an earning opportunity to local residents through engaging them as cook-cum-helpers. In fact, to implement this norm, it is also imperative to give preference to women from weaker and deprived sections of the society. Due to such explicit selection criterion put in place, we also observe that most of our respondents do come from resource poor background and are vulnerable on many parameters. The section below gives a snapshot of the sociodemographic characteristics of our respondents- CCHs. We present below demographics of CCHs such as age, marital status, education, and their social group.

#### Age distribution

The survey findings depicted in Chart 1 below show that majority (45%) of the CCHs in Dhenkanal are in the age group 41 to 50 years; 44 years being the average age. 26% of CCHs in Dhenkanal belongs to the oldest age group of 51-60.

In Varanasi, a majority (48%) of the CCHs are in the age group 31 to 40 years. Followed by (33%) in the age group of 41-50. The average age of CCHs in Varanasi is 42 years. Therefore, almost 81% of CCHs were between 31 to 50 years.

**Chart 1: Age distribution**

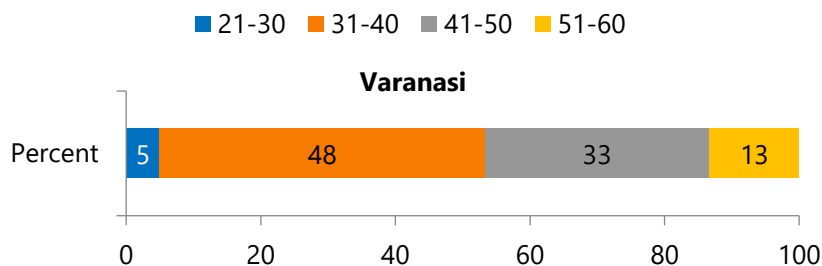
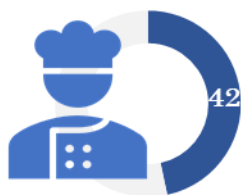


<sup>4</sup> Data for both the locations are reported separately.

<sup>5</sup> Demographic characteristics such as age, gender, race/ethnicity and income are considered as a key source of heterogeneity; here religion and education are highlighted as additionally important determinants of vulnerability. Raya Muttarak, 2017, "Focusing on demographic differential vulnerability"

<sup>6</sup> <http://14.139.60.153/bitstream/123456789/11688/1/Guideline%20for%20Cook-cum-Helpers%20under%20Mid-Day%20Meal%20Odisha.pdf>

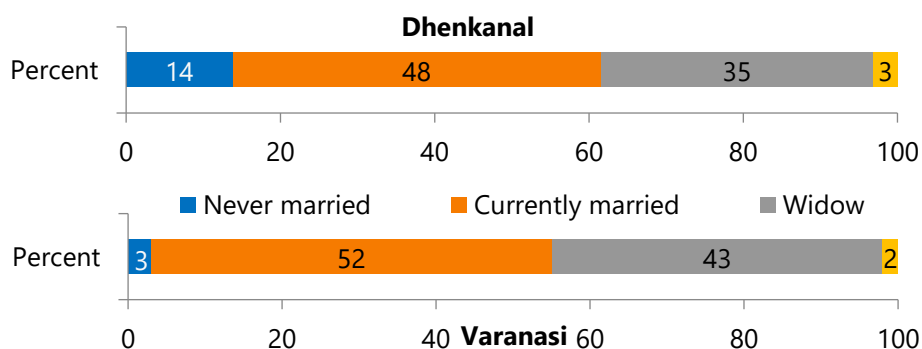
Varanasi



### Marital status

Among the respondents, majority of CCHs were married. Further, a considerable percentage of CCHs also reported their status as widows. This also indicates that the selection of the CCHs have complied with the government norms on the engagement of CCHs under the MDM programme and thus engages the most vulnerable.

**Chart 2: Marital status**



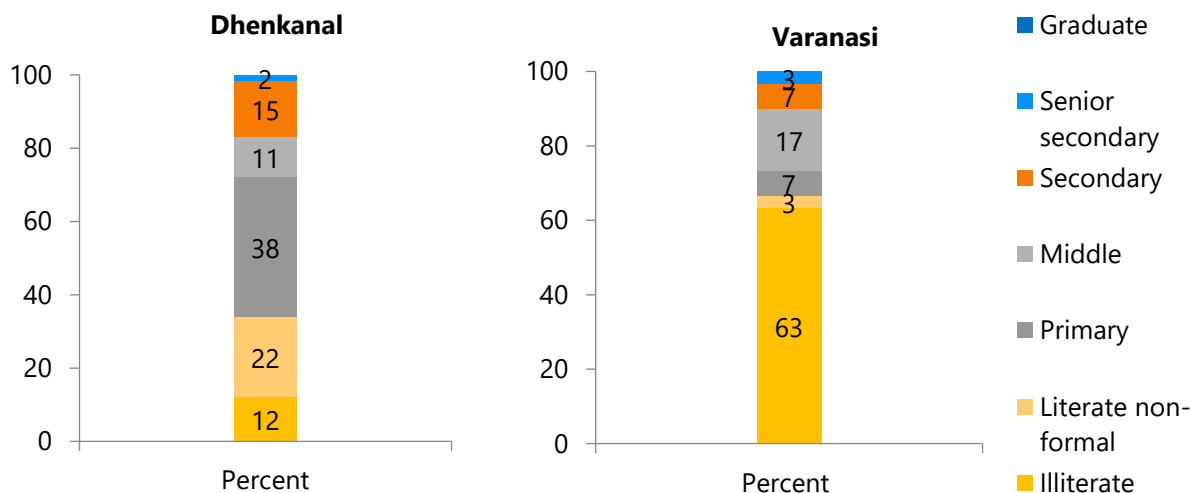
### Educational level

The findings suggest that levels of education are very poor among the respondents in both locations. Data depicted in Chart 3 show that the majority of CCHs in both the locations are either illiterate, literate non-formally or educated only up to primary school.

In Varanasi, the percentages of respondents (CCHs) who were illiterates are as high as 63%. This group is followed by 17% of CCHs who have completed middle level of education, whereas, only 10% of CCHs had secondary levels of schooling and above.

In Dhenkanal, 38% of the CCHs reported education till primary levels; followed by non-formal literacy by 22%. The proportion of CCHs who reported as illiterates were around 12% of the CCHs surveyed. Further, 17% of CCHs reported secondary levels of education and above.

### Chart 3: Educational level

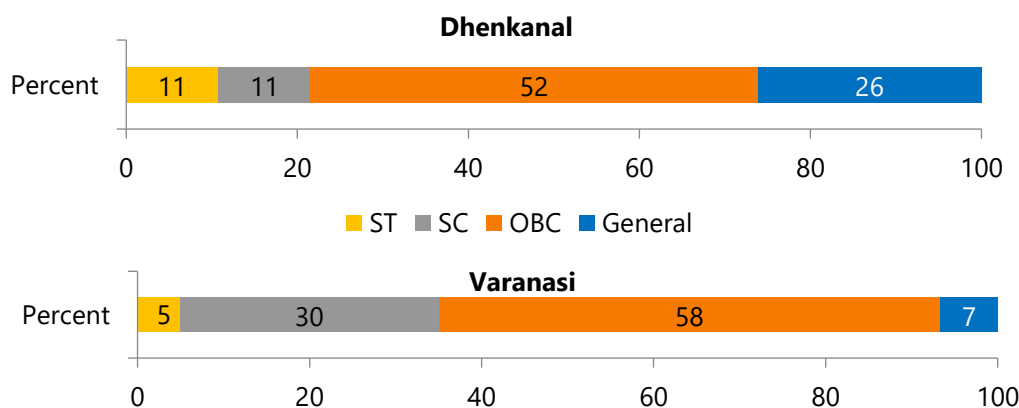


### Social group

Majority of the CCHs belong to Other Backward Classes (OBC) in both locations. As depicted in Chart 4, among the CCH respondents in Varanasi, almost 58 % belonged to OBCs. This group was followed by 30 % of CCHs who belonged to Scheduled Castes (SC). Among the respondents, around 5% of CCHs were from Scheduled Tribe.

In Dhenkanal 52 % of CCHs belonged to OBCs and 26% were from General Category. In fact, both SC and ST were equally represented in our sample and comprised 11% each of the CCHs surveyed.

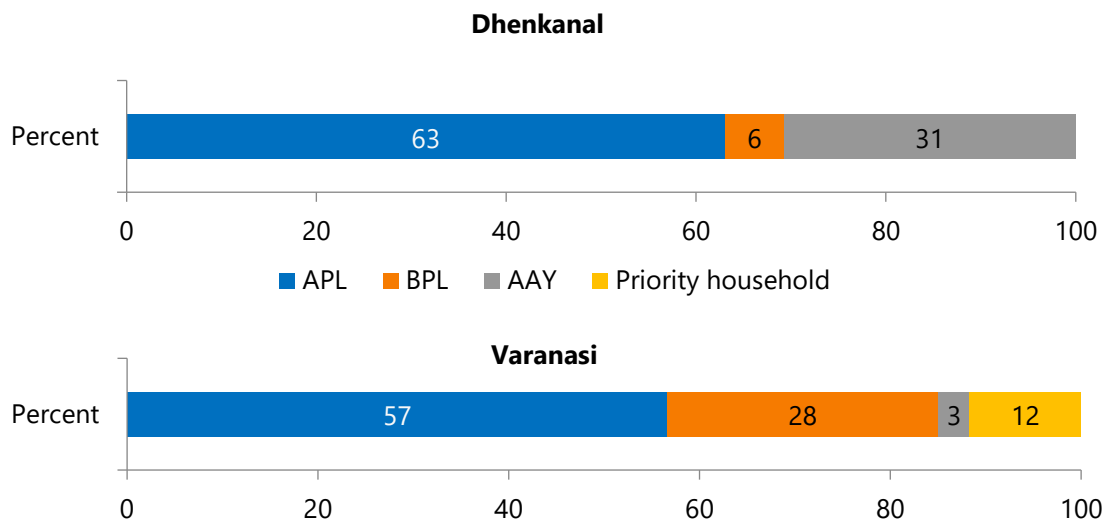
### Chart 4: Social group



### Ration card

A considerable proportion of the CCHs covered in our sample comes from resource poor background. Almost 37% of the CCH possessed either BPL or AAY cards in Dhenkanal. In Varanasi, this proportion was around 43% who either had BPL/PHH or AAY cards.

### Chart 5: Ration card



## 3.2 Ownership and accessibility to mobile phone

### KEY POINTS

- Majority owned feature phones
- Low penetration of smartphones
- Small proportions of CCH lacked access to any kind of phone in both locations

The project at hand is an ICT-based intervention. Since the programme plans to leverage new age technology such as Tablets or smart phones for training purposes, this baseline study specifically investigated accessibility and ownership of mobile phones especially, smart phone among the CCHs in schools. Benchmarking the ownership and access to phone would provide necessary insights to mitigate the technology related limitations of the target group.

### Phone Ownership & Mobile Phone Access

Overall, while India has a high phone penetration rate among its population, there is also wide disparities and variations that exists in terms of phone ownership especially, between men and women<sup>7</sup>. The study findings from both the locations are consistent with the overall national trends.

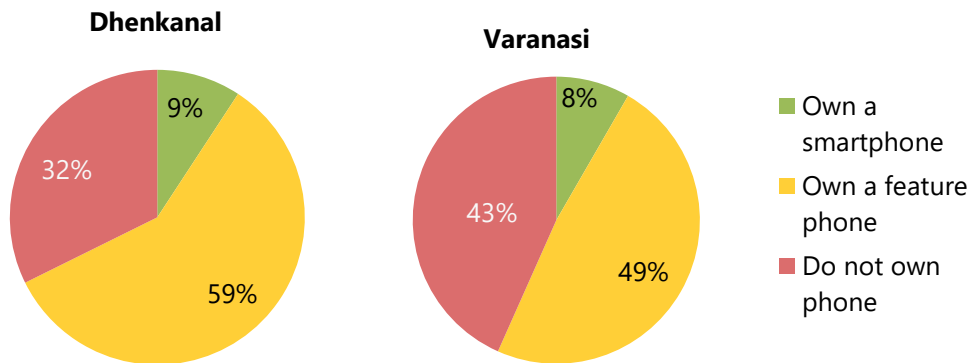
In Dhenkanal, almost one-third of the CCHs reported not owning any phone (refer: Chart 6). , Out of the CCHs who do not own any phone or have feature phone (N=59/65) almost 90% had reported to have at least some access to other person’s phone. In fact, among the non-phone owning CCHs, almost 41% of CCHs reported having no issues accessing a phone. The group to especially look out for is small (10%) of CCHs who neither owned a phone nor had access to one (refer: Chart 7).

In Varanasi, a large proportion (43%) of CCH respondents didn’t own a phone (refer: Chart 6). Among non-phone or feature phone owning CCH (N=55/60), almost 75% reported to have no issues in

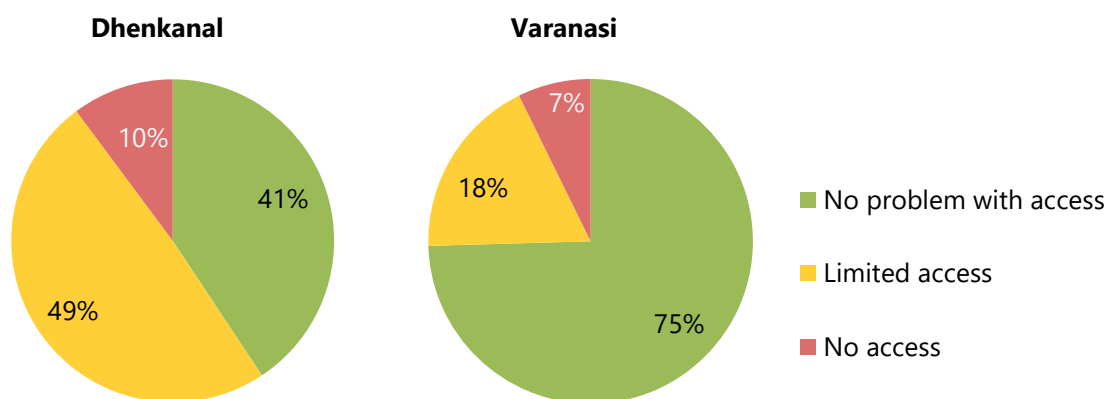
<sup>7</sup> There is a wide variation in mobile phone penetration between men and women across the different states of India. A set of factors like education, income, social norms, gender continue to constraint mobile phone ownership. These factors are inadvertently widening the digital divide and the benefits of increased mobile penetration are failing to reach to an important segment of the society, leaving them further behind. (“Gender gaps in mobile penetration in India”. International Journal of Research and Review (ijrrjournal.com) 589 Vol.7; Issue: 11; November 2020)

accessing a phone and around 18% reported to have only limited access. Though a very small proportion (7%) of non-phone owning CCH reported to have no access to phone at all; yet it is critical to identify such CCHs and provide special support and handholding.

### Chart 6: Mobile phone ownership



### Chart 7: Access to mobile phone

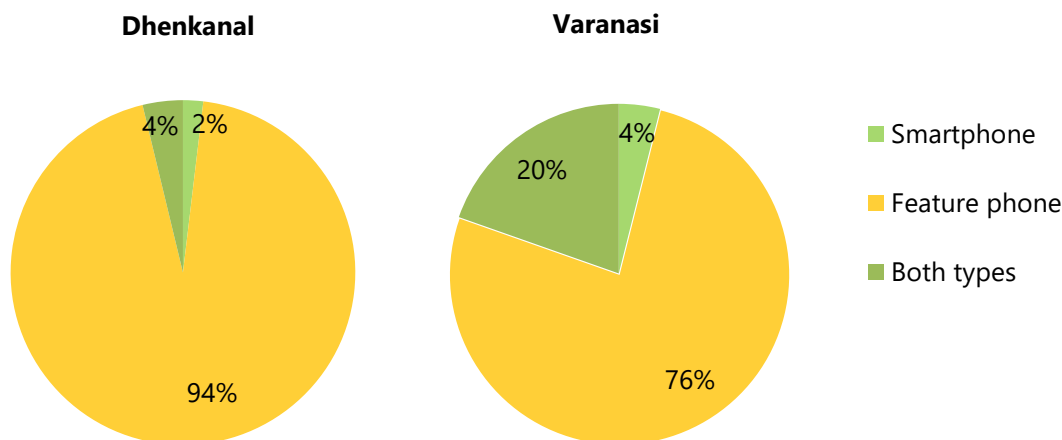


### Access to Feature Vs Smart phones

Among CCHs who had access to phones, only 24 % of CCHs in Varanasi and a minuscule 6% in Dhenkanal have access to smartphone. Given the low penetration of smartphones, a challenging aspect of the programme will be to make the CCHs functionally literate in operating smart devices.



### Chart 8: Accessibility to type of phone



### 3.3 Knowledge of ICT

The baseline study has attempted to benchmark the Knowledge, Attitudes and Practices of CCHs. Under the knowledge aspect, the study attempted to investigate and benchmark CCHs’ knowledge on the prevailing levels of awareness about ICT products like mobile phones among the CCHs.

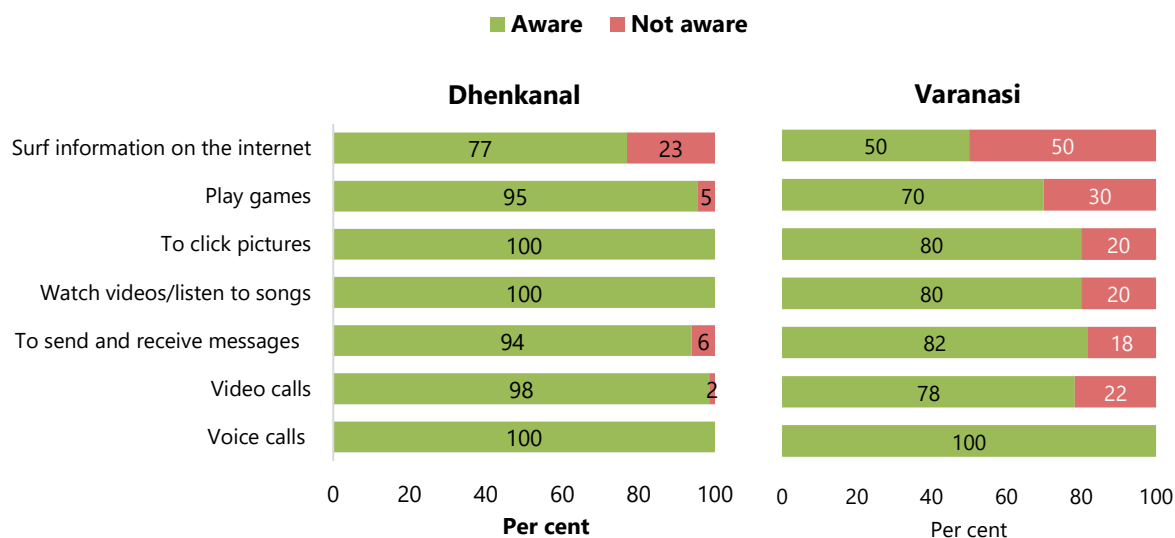
**KEY POINTS**

- Majority of CCHs are aware of the basic features of mobile phones, such as voice and video calls, sending and receiving messages, clicking pictures, and playing games
- Low awareness about features like ‘surf information on the internet’.

#### Awareness about features of phone

One of the key questions asked to CCHs during the baseline was towards assessing their awareness levels about the functionality or features of phones. The response to such a question highlighted that majority of CCHs surveyed were aware of mobile phone features like voice and video calls, sending and receiving messages, clicking pictures, playing games. However, the only feature that related to ‘surfing of information on the internet’ was not known to CCHs, especially in Varanasi (50%). The evidence on the awareness about ICT among CCHs suggest that the required awareness about ICT is widely prevalent among the CCHs. Thus, such awareness could be a good starting point for the ICT based capacity building initiatives.

### Chart 9: Awareness about features of phone



### 3.4 Attitude towards ICT

In the Attitude section we aim to benchmark the levels of acceptability, comfort and attitude of CCHs with regard to ICT.

#### KEY POINTS

- Low acceptance towards receiving training through an App
- Major reasons for wanting to get trained face to face with trainer is the belief that personal interaction is important for better understanding and due to unfamiliarity with technology
- Majority of CCHs feel it will be difficult to operate smart device
- Among those who have higher acceptability, some of the major motivations for wanting to get trained through App are as the CCHs were keen to learn new technology, they expect it to be easy way of learning things anytime/anywhere and would also save time.
- CCHs say that learning to operate smart devices will help in manage other activities efficiently
- Majority of the CCHs are ready to put extra efforts in learning

### Acceptability and comfort level with ICT environment<sup>8</sup>

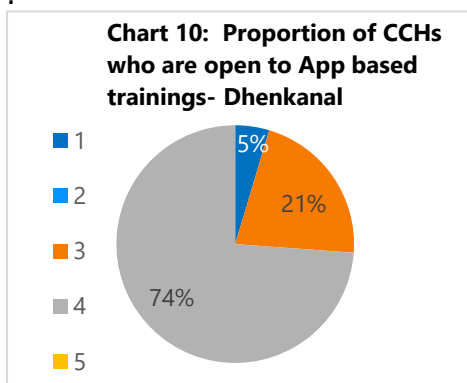
It is important for the programme’s success to know whether learnings imparted through ICT devices such as Tablets and smart phones are acceptable to the target group-CCHs. It will indeed be prudent to investigate this before the programme starts. And take necessary steps to make CCHs more comfortable with ICT if needed.

<sup>8</sup> It has been observed that income, education and household demographics are strong determinants of household ICT adoption, while education, age and gender are strong classifiers for variations in an individual's ICT use capabilities. "Chavi Aarani, Spanning the digital divide in India: Barriers to ICT adoption and usage, (2021) Journal of Public Affair"

The correlation analysis of the survey data show that the CCHs’ age is negatively correlated, and education is positively correlated with their acceptability of getting trained through App. That is to say, the higher a CCH’s age the lower is her acceptance and the higher her education the higher is her acceptance. The correlation coefficient for age is -0.1135 and for education it is 0.1655.

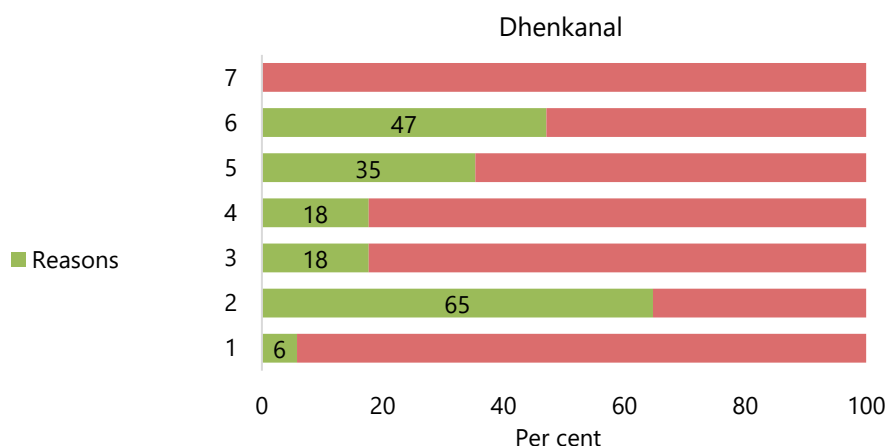
### Acceptability of getting trained through an App

Findings in Chart 10 indicate that only about 5% of the CCHs in Dhenkanal have shown interest in getting trained through the App. However, a substantial proportion (74%) has shown higher acceptability of App when accompanied by face to face trainings. Among this group of CCHs who have higher acceptability of App based trainings, most of the CCHs stated various reasons as their top motivations for their choice such as the Keeness to learn new technology, Ease of learning anytime/anywhere and they expect to save more time (refer Chart: 11)



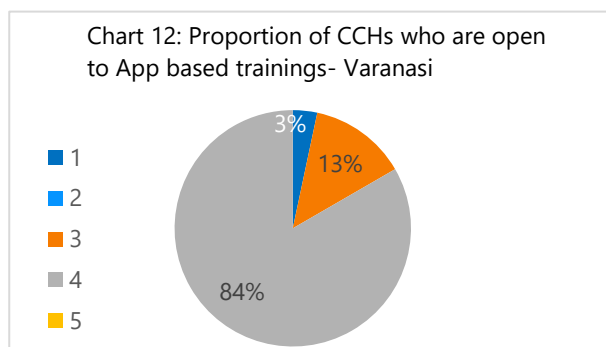
1. Very interested through an App on a smart device,
2. Interested through an App on a smart devi
3. Not interested with App but face to face with a trainer,
4. Both App and face to face with trainer,
5. I do not think I need the training. I know & do my job well

### Chart 11: Reasons for getting trained through an App by CCHs in Dhenkanal



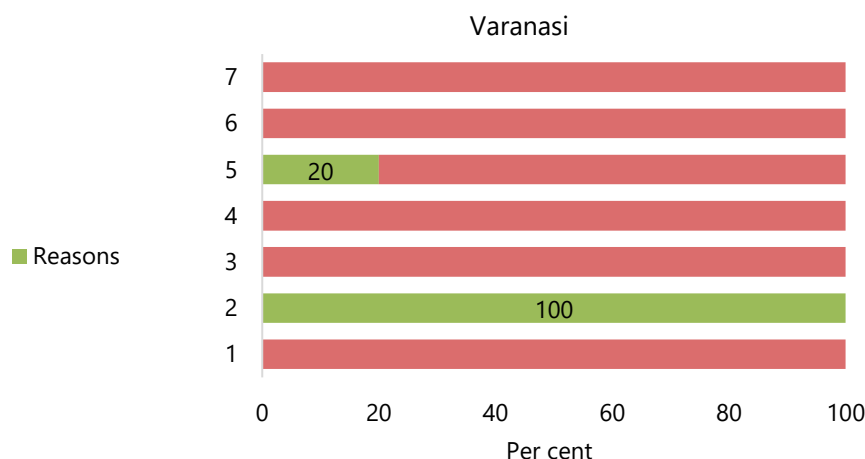
1. Well versed with smart devices,
2. Keen to learn new technology,
3. App based training helps in learning faster than the conventional training,
4. ICT allow to recall and learn better than conventional training,
5. Time saving,
6. Ease of learning anytime/anywhere,
7. The self-test enables to instantly evaluate comprehension on topic learned

Similarly, even in Varanasi as shown in Chart 12, only about 3% of the CCHs showed interest in getting trained through the App. Just as in the case of Dhenkanal, a huge proportion (84%) of CCHs have shown higher acceptability of App based trainings when accompanied by face to face trainings. Among this group of CCHs who have higher acceptability and inclination towards learning through an App, most of the CCHs stated primarily two reasons as their top motivations for their choice such as the Keeness to learn new technology and they expect to save more time (refer Chart: 13).



1. Very interested through an App on a smart device,
2. Interested through an App on a smart device,
3. Not interested with App but face to face with a trainer,
4. Both App and face to face with trainer,
5. I do not think I need the training. I know and do my job well

**Chart 13: Reasons for getting trained through an App by CCHs in Varanasi**

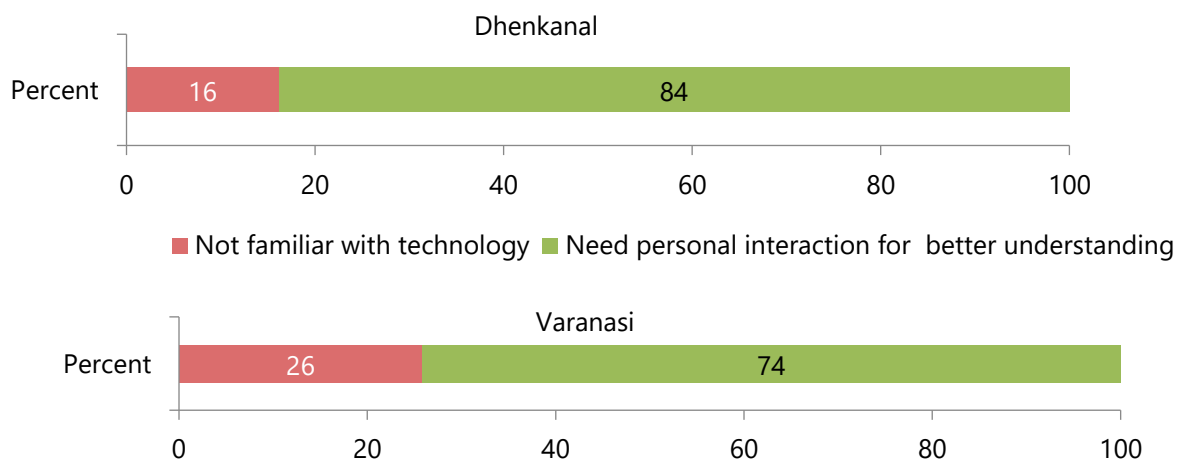


1. Well versed with smart devices, 2. Keen to learn new technology, 3. App based training helps in learning faster than the conventional training, 4. ICT allow to recall and learn better than conventional training, 5. Time saving, 6. Ease of learning anytime/anywhere, 7. The self-test enables to instantly evaluate comprehension on topic learned

### Reasons for getting trained face to face with trainer

Chart 14 shows that among those CCHs who are not inclined to get trained through the App in Dhenkanal, 84% believe that personal interaction is important for better understanding, compared to 74% in Varanasi. About 26% of CCHs in Varanasi and 16% in Dhenkanal have cited non familiarity with the technology as their reason for not wanting a training through the App.

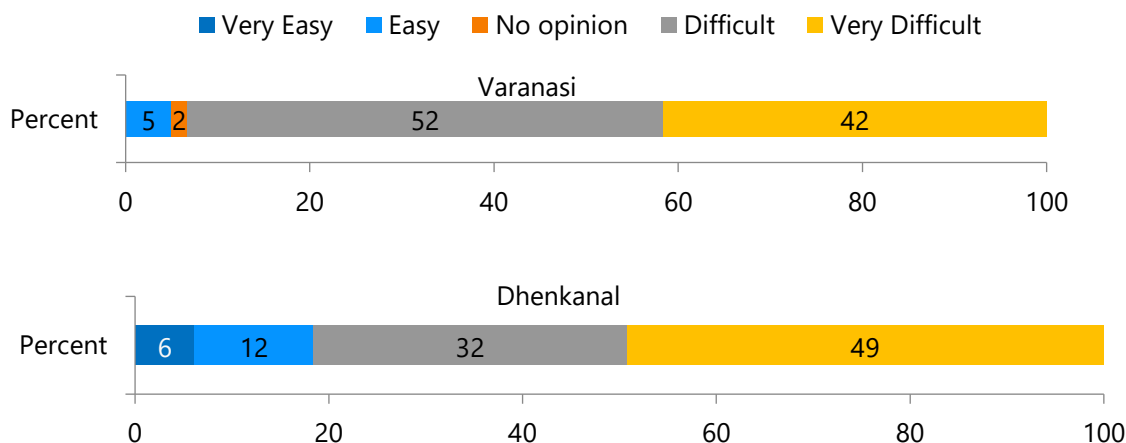
**Chart 14: Reasons for getting trained face to face with trainer**



### Ease of navigating/operating smart device

As represented in Charts 15, a majority of the CCHs surveyed feel that it will be difficult to navigate or operate smart devices. About 94% of CCHs in Varanasi and 81% in Dhenkanal feels that they will face difficulty in operating smart devices. The survey data show that the CCHs’ age is positively correlated, and education is negatively correlated with their levels of difficulty in operating smart devices. That is to say, the higher a CCH’s age the higher is her difficulty and the lower her education the higher her difficulty. The correlation coefficient for age is 0.245 and for education it is -0.314.

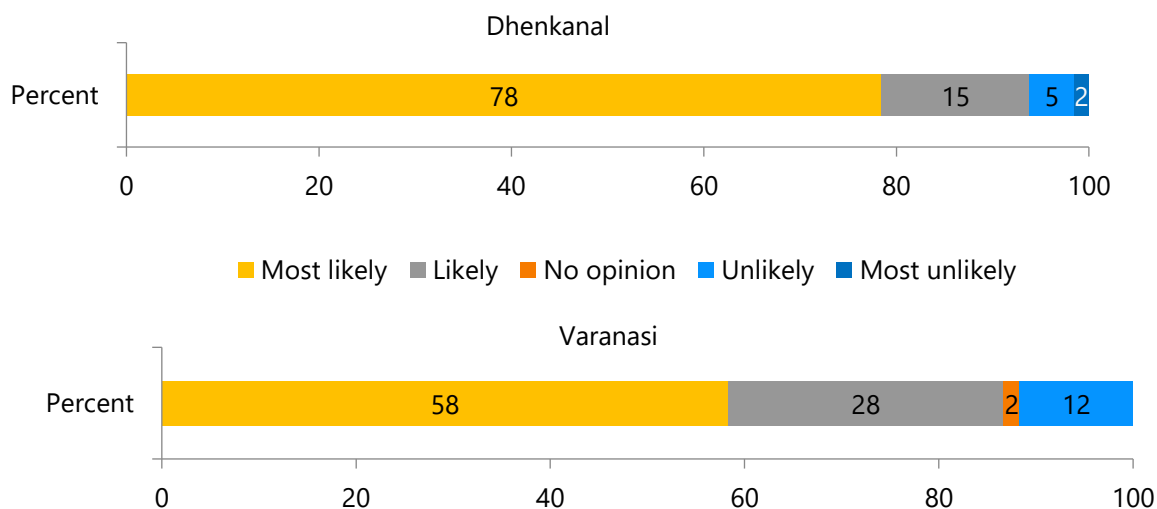
**Chart 15: Ease of navigating/operating smart device**



### Likelihood of taking help in using the smart device

As shown in Chart 16, 93% CCHs in Dhenkanal and 86% in Varanasi think they will require help from another person while learning on a smart device. A probable reason for a big proportion of CCHs to have felt this way could be their lesser and limited accessibility to smartphones.

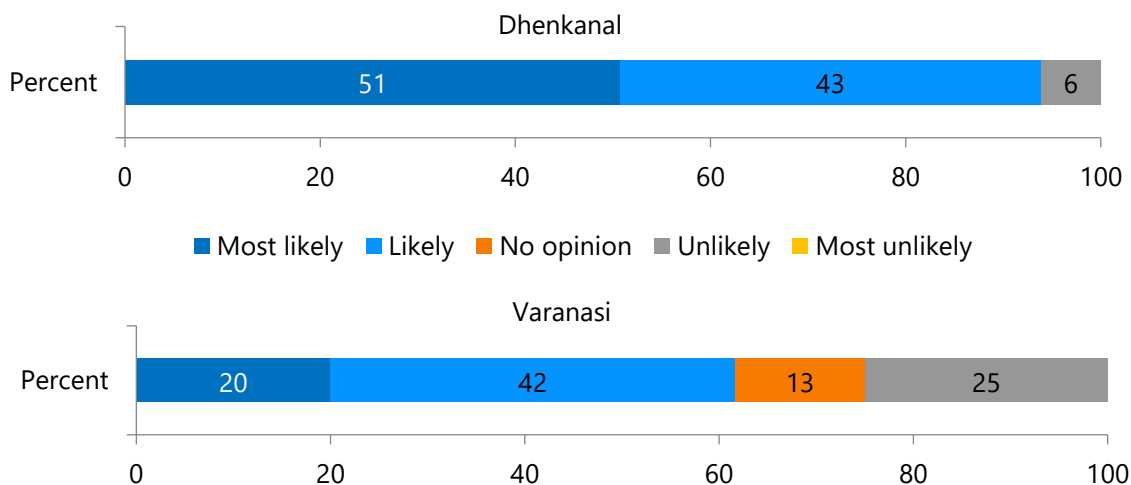
**Chart 16: Likelihood of taking help in using the smart device**



**Likelihood of smart device helping in managing other activities**

As shown in Chart 17 about 94% of CCHs in Dhenkanal and 62% in Varanasi believed that learning to operate the smart device will also help them manage other activities at school and home better.

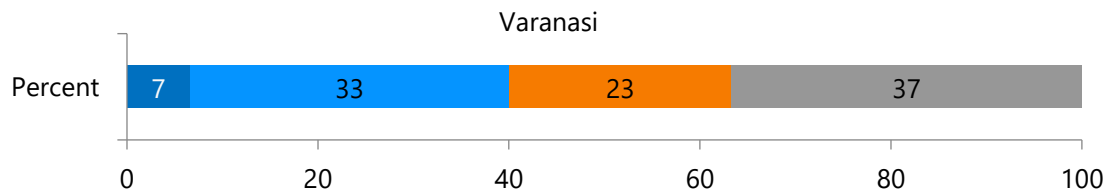
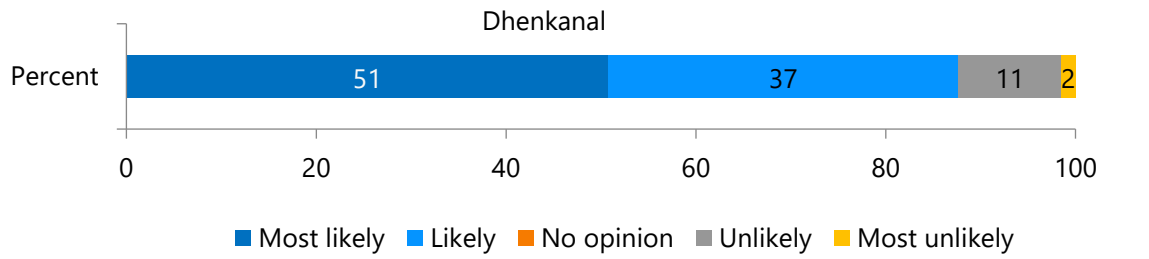
**Chart 17: Likelihood of smart device helping in managing other activities**



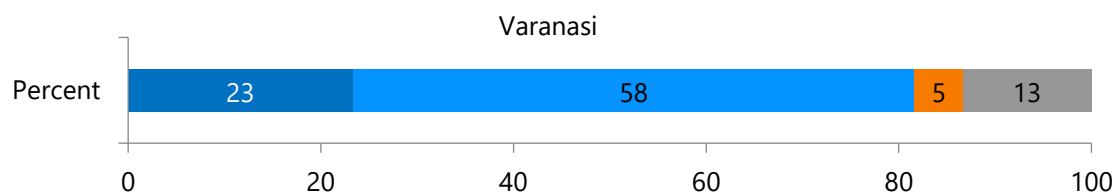
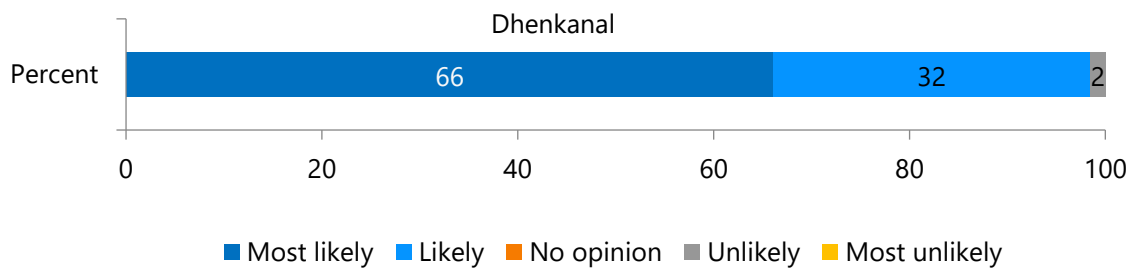
**Likelihood of installing training modules on personal device and devoting extra time after school hours**

The findings in Chart 18 indicate that even though it will be difficult for CCHs to operate smart devices and would also require of them to seek help, the majority are willing to put in the extra effort. About 88% of CCHs in Dhenkanal and 40% in Varanasi are ready to get the App installed in their phones and majority of them are ready to devote additional time after school hours to learn more about cooking practices and new technology.

**Chart 18: Likelihood of installing training modules on personal device**



**Chart 19: Likelihood of devoting extra time after school hours for training**

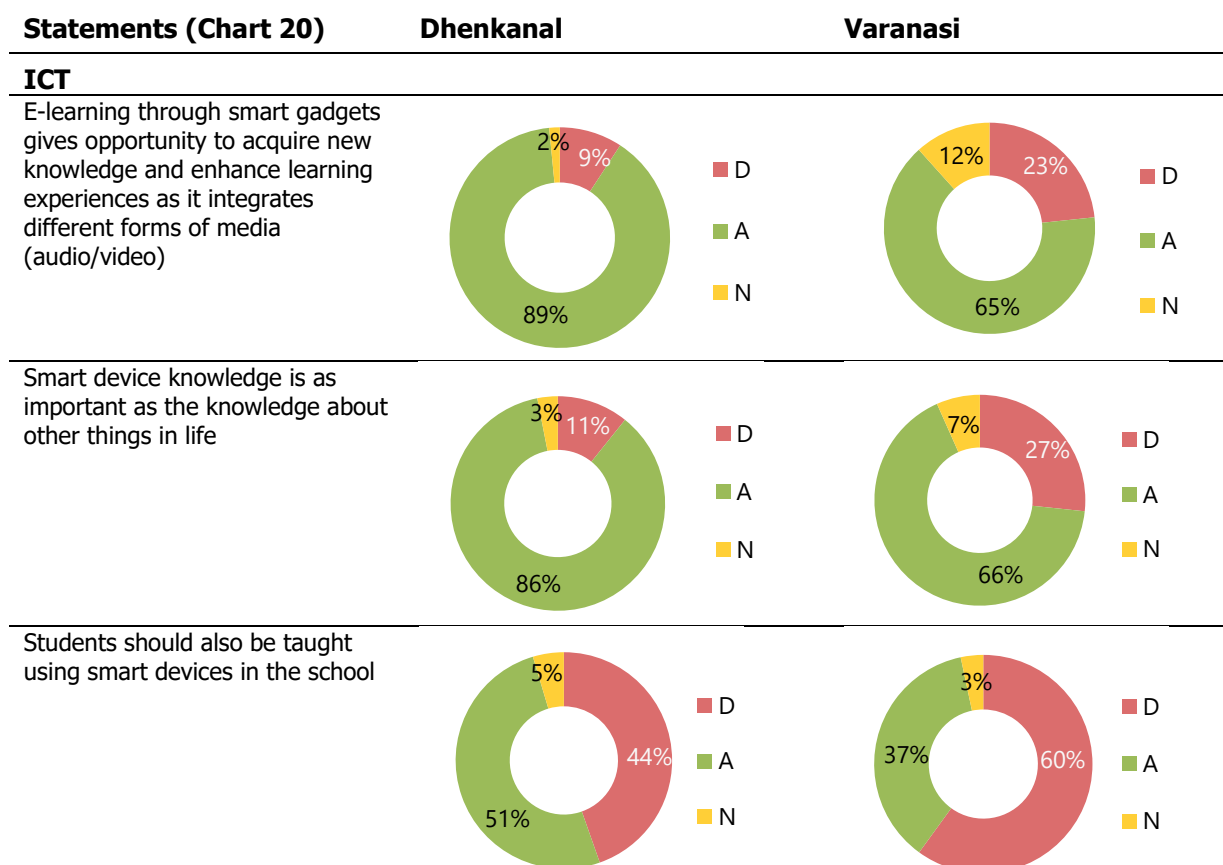


Study findings on the CCHs’ attitude towards technology based on the statement type questions are presented below in Chart 20.

**KEY POINTS**

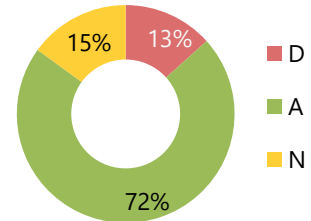
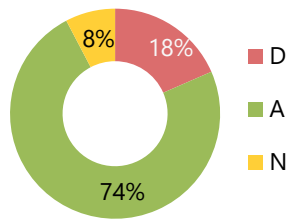
- Majority of CCHs in Dhenkanal as compared to those in Varanasi agree that learning through smart gadgets helps acquire new knowledge and enhances learning experiences and is as important as other things in life
- A higher percentage of CCHs in Dhenkanal feel that smart devices make learning fun and allow for better evaluation of progress being made
- CCHs in both locations associate e-learning with convenience and easier to revise than printed material
- A considerable percentage of CCHs in both locations, however, feel that students should not be taught using smart devices in schools

**(D=Disagree, A=Agree, N=Neutral)**

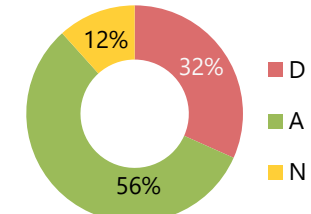
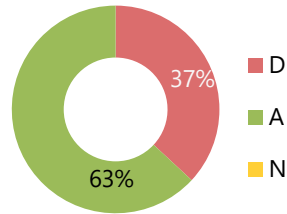




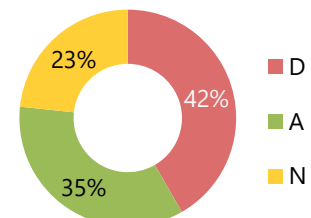
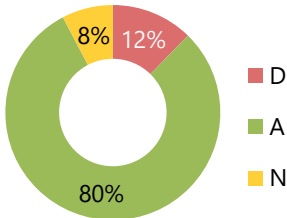
Convenience is an important feature of E-learning



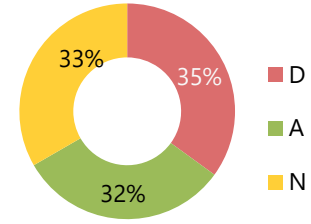
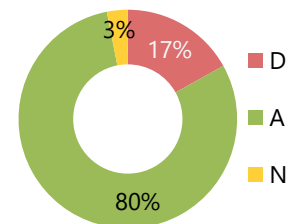
It is easier to revise electronic educational material than printed material



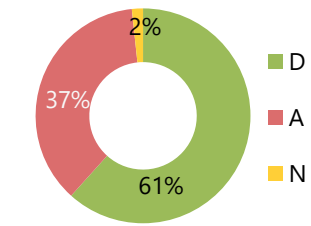
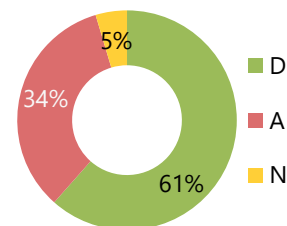
Smart device can make learning fun



Smart device-based learning allows me to better evaluate my progress in the subject



Some people believe that it is not okay for women to use smart phone



### 3.5 Practice followed towards use of ICT

In the Practice section we aim to check the ability, adaptability and comfort levels of the CCHs towards the actual usage of ICT.

#### Ability, comfort, and actual usage of ICT

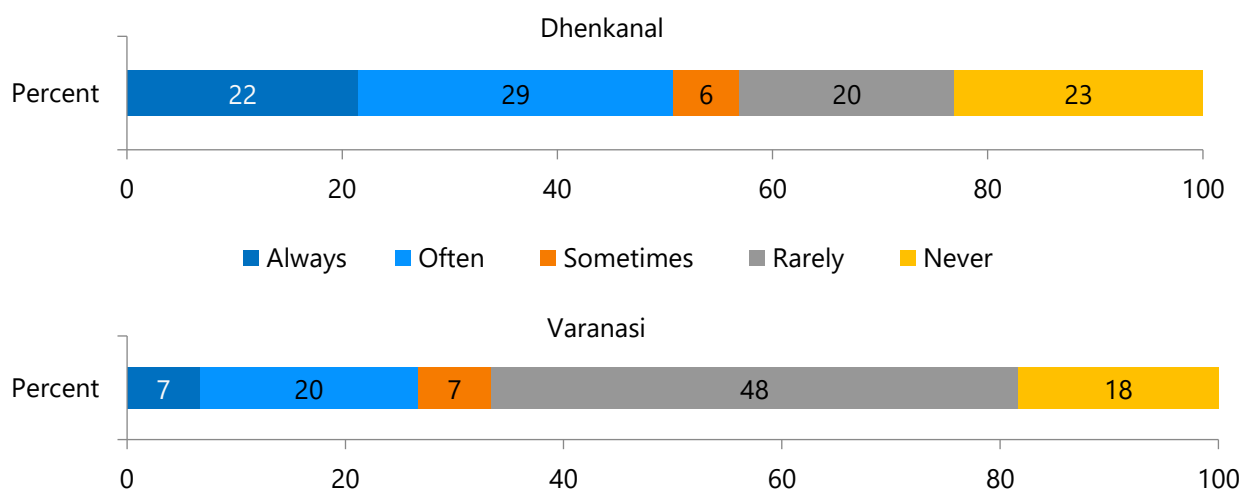
##### KEY POINTS

- At least half of CCHs in Dhenkanal and about two-third in Varanasi are able to operate the phone with help from others.
- CCHs in both the locations are comfortable using the feature phone
- Most CCHs, who use phones, use them for making calls followed by reasons such as watching videos/listening to songs, and sending & receiving messages.
- CCHs in both the locations are currently more skilled in using voice calls only
- CCHs in both the locations find features like voice calls, video calls, sending and receiving messages most useful

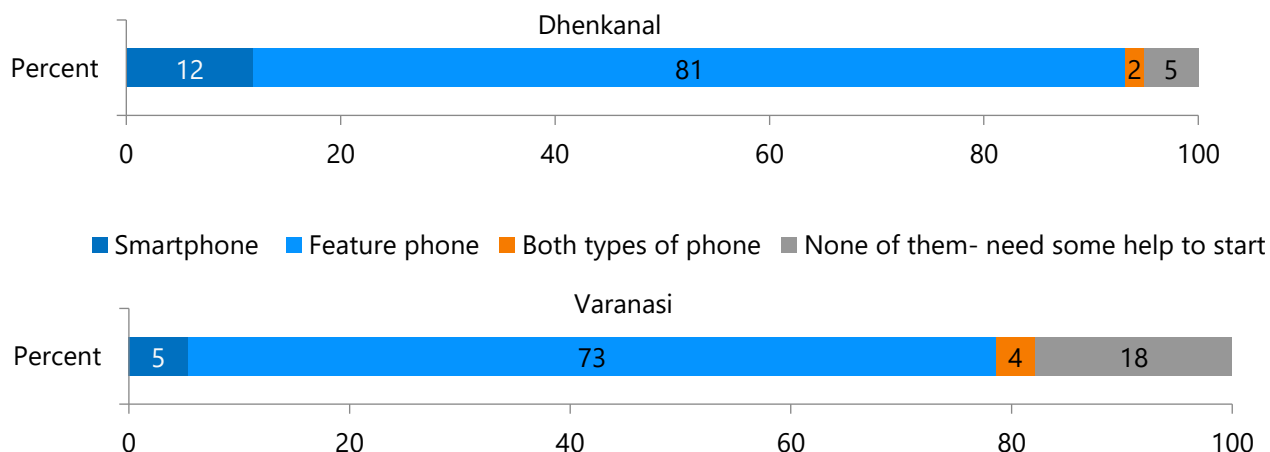
#### Ability to operate phone without taking any help and comfort with type of phone

Charts 21 and 22 shows about 51% of the CCHs in Dhenkanal and 27% in Varanasi, are able to operate the phone without help. Of the total CCHs surveyed, most in both locations are comfortable using feature phones. About 18% in Varanasi and 5% in Dhenkanal are not at ease using either of the phones and require assistance. Study findings indicate a positive correlation of age and negative correlation of education with the CCHs’ ability to operate mobile phones without assistance. Here the correlation coefficient for age is 0.314 and for education it is -0.494.

**Chart 21: Ability to operate phone without taking any help**



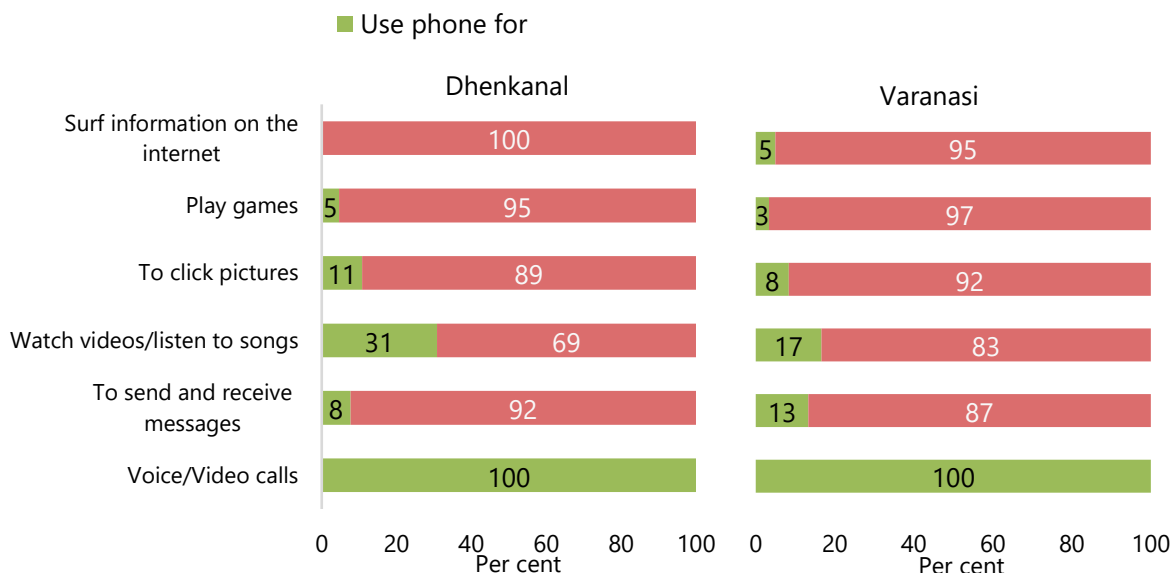
**Chart 22: Comfortable in using type of phone**



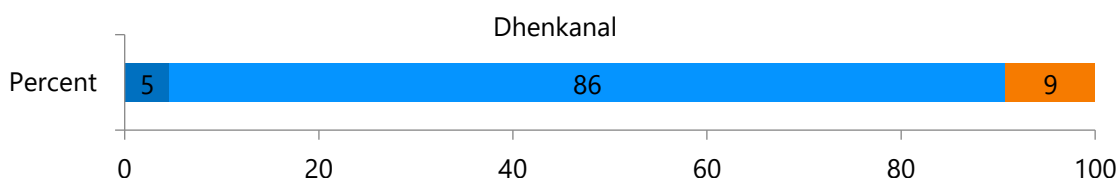
**Purpose, place, and frequency of using the phone**

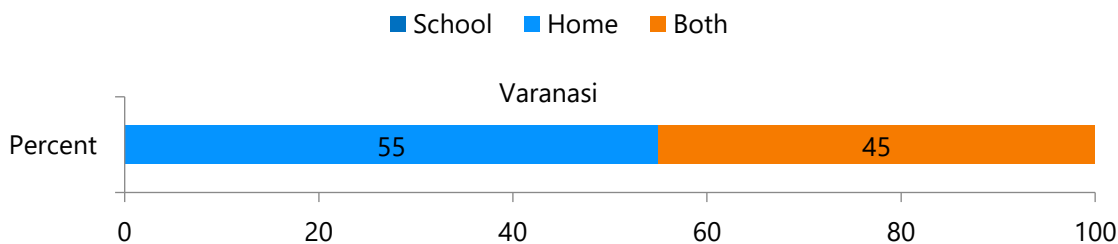
Charts 23, 24 and 25 indicate that most CCHs who use phones use them for making calls. This is followed by them using phones to watch videos and listen to songs and sending and receiving messages. About 38 % of the CCHs in Varanasi use phones very often, whereas the majority (62%) in Dhenkanal use it rarely or sometimes in a day. While in Varanasi they use it at home as well as in school, the CCHs in Dhenkanal mostly use phone at home.

**Chart 23: Purpose of using the phone**

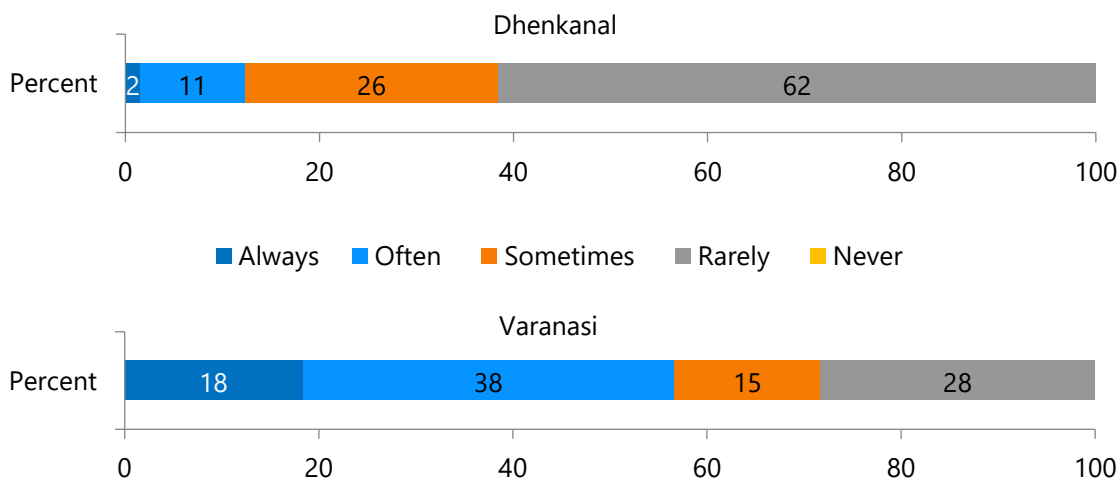


**Chart 24: Place of usually using the phone**





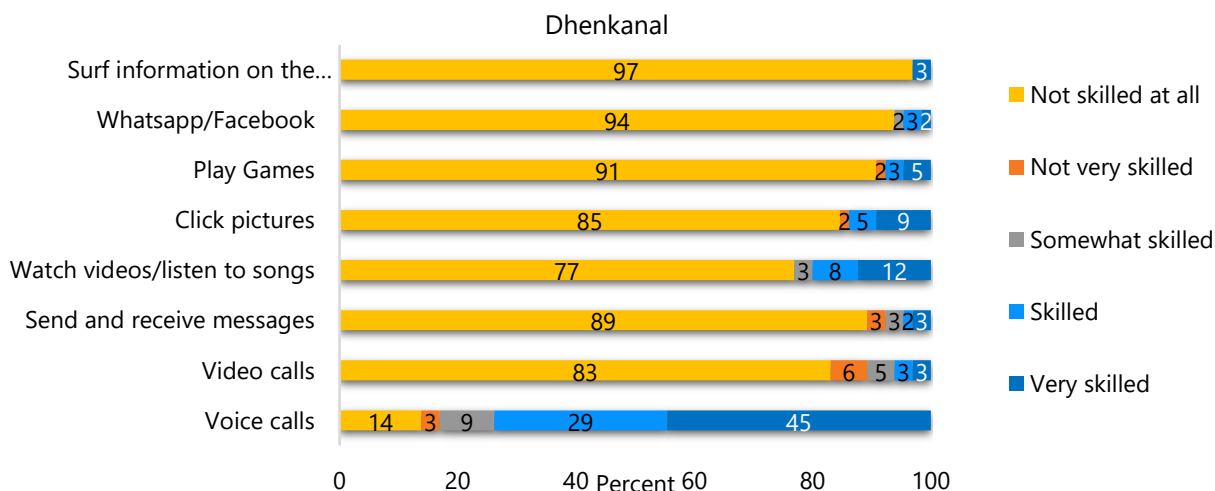
**Chart 25: Frequency of using the phone in a day**

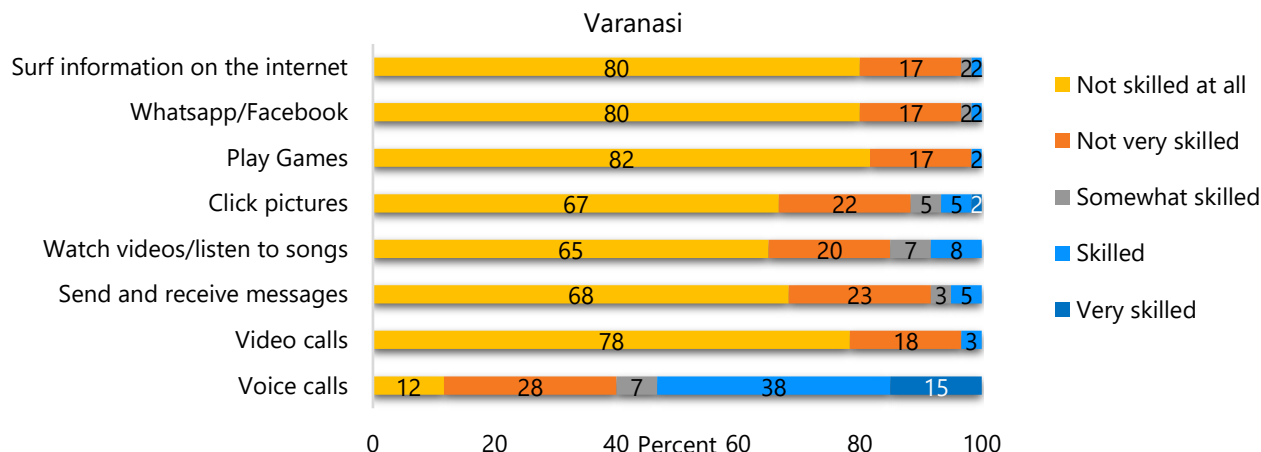


### Skill level in using features of phone

It is important to know the skill levels of CCHs in handling smart gadgets to estimate the intensities of the efforts required to make their training through the App easy. Findings presented in Chart 26 indicate that most CCHs are currently skilled in using voice calls only. A very low percentage can make video calls, send and receive messages, watch videos /listen to songs, play games and very few uses WhatsApp or Facebook, or surf internet for information. This is because most CCHs have feature phones and only a small proportion actually owns a smartphone.

**Chart 26: Skill level in using features of phone**

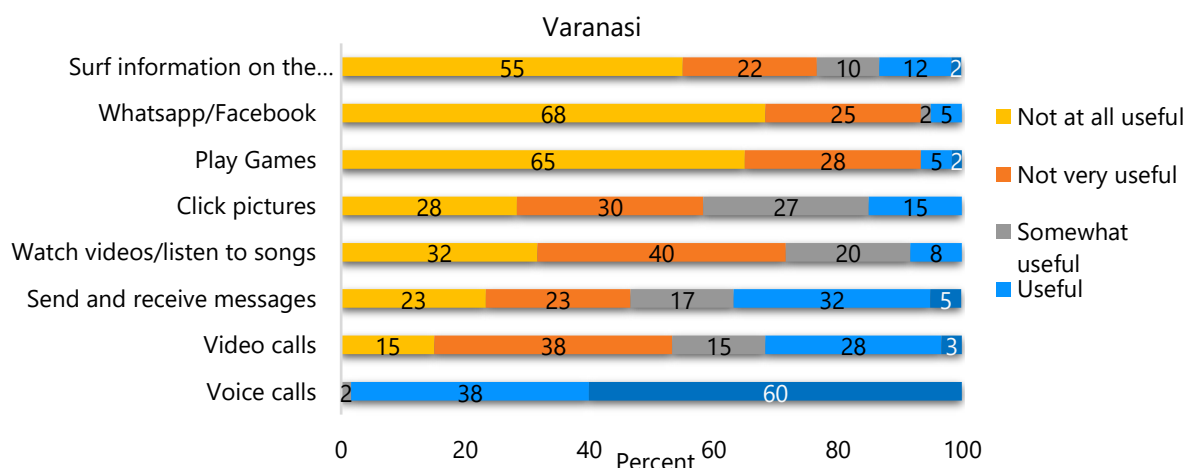
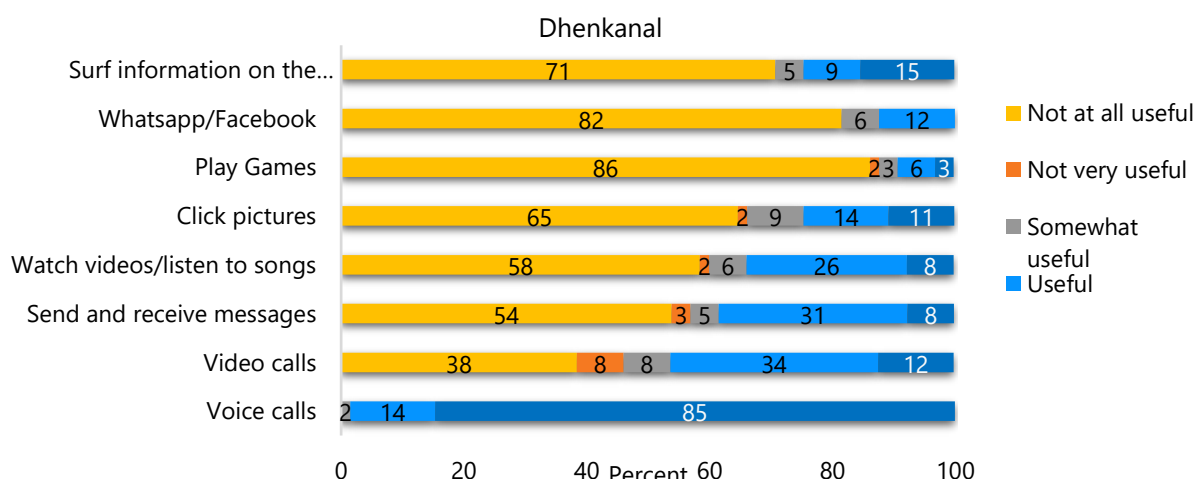




### Usefulness of phone features in daily life

Chart 27 indicates that majority of the CCHs in both locations find features like voice calls, video calls, sending and receiving messages most useful compared to other mobile phone functions. Though CCHs in both the locations are not very skilled in using all the features of the phone, however they find all these features very useful.

**Chart 27: Usefulness of phone features in daily life**



### 3.6 Knowledge of their job

On awareness about their job responsibilities, CCHs were asked questions on various topics<sup>9</sup> that they were required to be familiar with to execute their jobs efficiently, with safety and hygiene. The broad topics covered personal hygiene, cleanliness of kitchen and utensils, modes of contamination, procurement, quality assurance, storage of raw material, methods of cooking for retaining nutrients, waste disposal and managing emergencies. The questions were of two kinds. First, close ended questions which required the CCHs to select multiple answers from the choices made available to them. Second, where a statement was put forth to the CCHs, and they were asked if they agreed or disagreed with the same on a scale of 1 to 5. We first looked into the awareness level of the CCHs by asking them closed ended type questions about the benefits of cooking food with the lid closed, cooking single meals and how to react if students fall ill after consuming a mid-day meal.

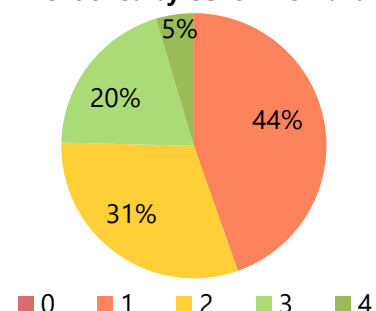
#### KEY POINTS

- CCHs in Dhenkanal are better aware of why food should be cooked with lid closed and how to respond if students were to fall ill after MDM consumption, whereas CCHs in Varanasi are more aware about benefits of cooking single meal.
- Two most common reasons for covering food, as known to CCHs, in both locations were to prevent insects and other contaminants from falling, and to cook food faster
- About half of the CCHs in both the places could list only one benefit of cooking a single meal
- The most common benefits of cooking a single meal, as known to CCHs, was that it had multiple nutritious ingredients and was also easy to cook
- The most common response to emergencies such as children falling ill after consuming MDM reported by CCHs in both locations was to inform the headmaster/principal and getting the children checked-up by a doctor.

#### Awareness about the reasons of cooking food with lid closed

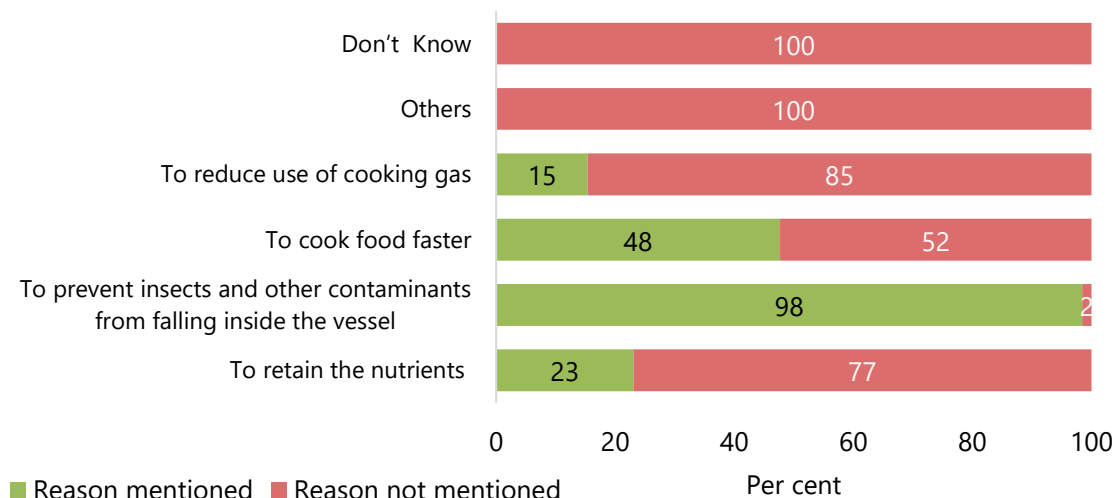
In Dhenkanal, about 25% of the CCHs cited three or more reasons as to why food should be cooked with a lid covering it. Among the most cited reasons were to prevent insects and other forms of contamination, to cook faster and to retain nutrients. On the other hand, almost 44% could manage to mention only one reason though an important one. There is therefore a big scope to enhance the awareness levels among the CCHs in Dhenkanal on matters of cooking.

**Chart 28: No. of reasons mentioned by CCHs-Dhenkanal**



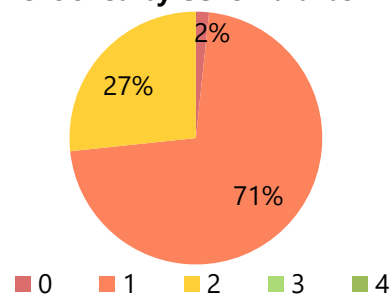
<sup>9</sup> During our initial field visit to calibrate the study questionnaire and data collection exercise, we noticed that most schools lacked the resources required to enable the CCHs to follow the programme's training modules. For instance, the programme trains CCHs to cut vegetables on tables or raised platforms and using blue and green dustbin for waste disposal. In fact, the kitchens of many schools have no raised platform/tables, nor do they have any dustbin for waste disposal. Therefore, the study has refrained from including questions based on topics, where there were supply side barriers.

**Chart 29: Proportion of CCHs who mentioned various reasons to cook with lid closed in Dhenkanal**

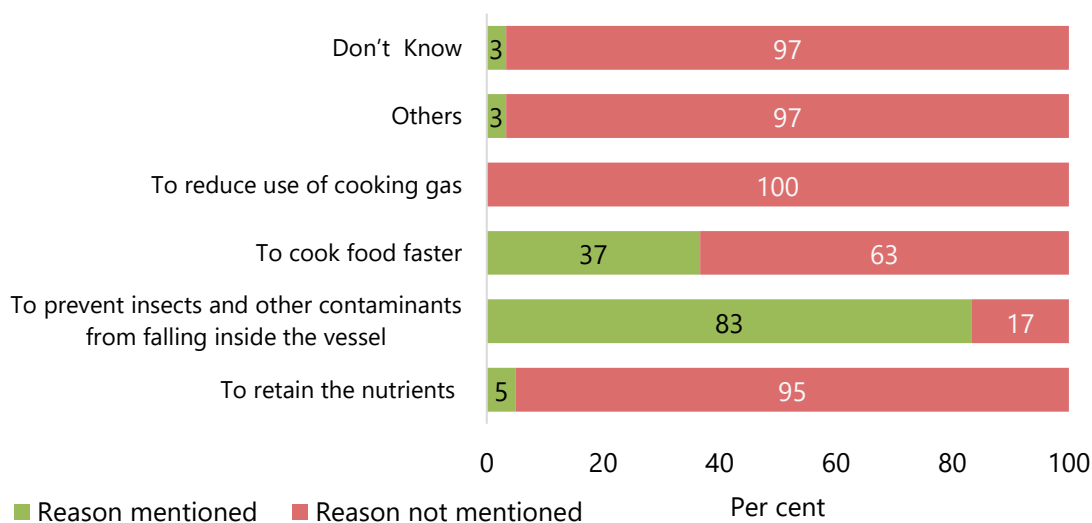


In Varanasi, the performance of CCHs were poor as none of the CCHs could mention three or more reasons for cooking food with covering lid. Most of the CCHs cited two reasons. Among the most cited reasons were to prevent insects and to cook faster. Introducing training modules to CCHs in Varanasi is likely to have more incremental gains as the awareness levels were low at the outset.

**Chart 32: No. of reasons mentioned by CCHs-Varanasi**



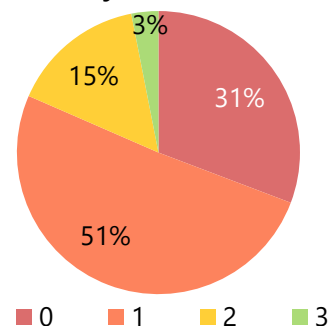
**Chart 31: Proportion of CCHs who mentioned various reasons to cook with lid closed in Varanasi**



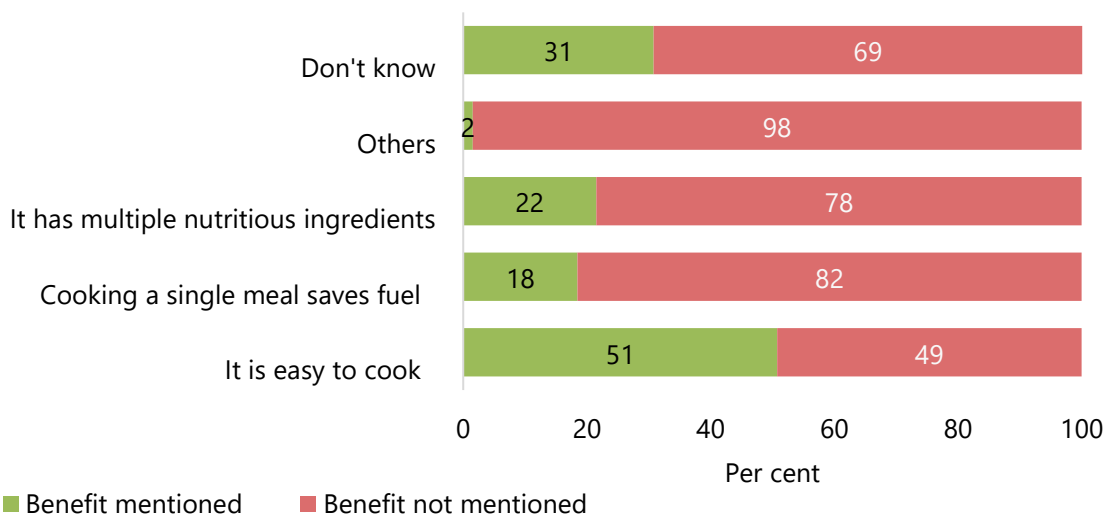
## Awareness about benefits of cooking a single meal

In Dhenkanal, majority (51%) of the CCHs could list only one benefit of cooking a single meal. A considerable proportion (31%) of CCHs in Dhenkanal was not able to list any benefit. The most known benefit to CCHs in Dhenkanal is that it is easy to cook a single meal.

**Chart 32: No. of reasons mentioned by CCHs-Dhenkanal**

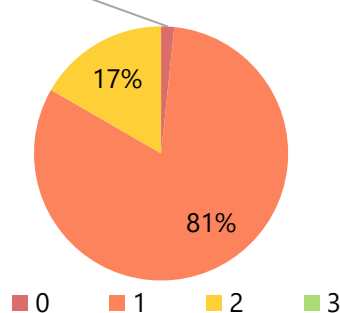


**Chart 33: Proportion of CCHs who mentioned various benefits cooking single meal in Dhenkanal**



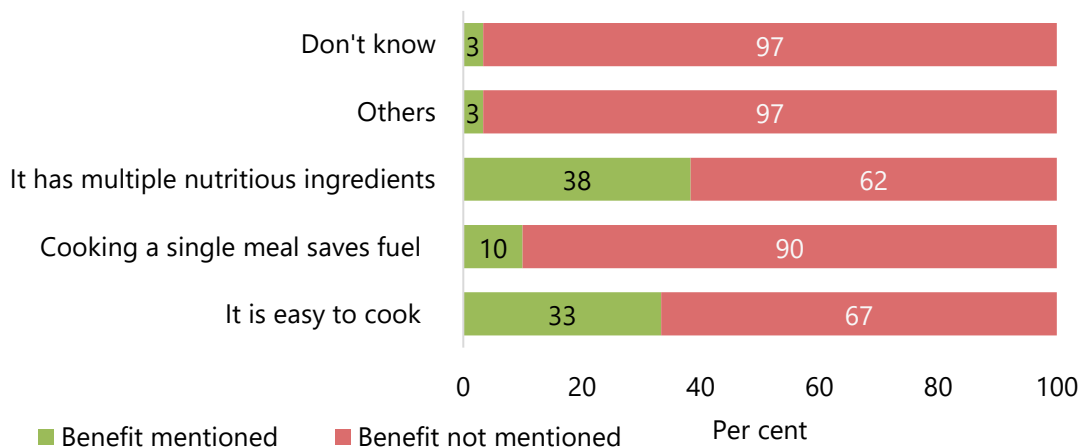
In Varanasi, majority (81%) of the CCHs could list only one benefit of cooking a single meal followed by 17% of CCHs who were able to list two benefits. The most known benefit to CCHs in Varanasi were that it has multiple nutritious ingredients and it is easy to cook a single meal.

**Chart 34: No. of reasons mentioned by CCHs-Varanasi**





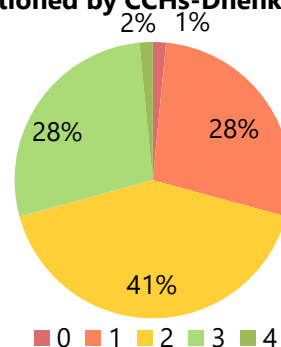
**Chart 35: Proportion of CCHs who mentioned various benefits of cooking a single meal in Varanasi**



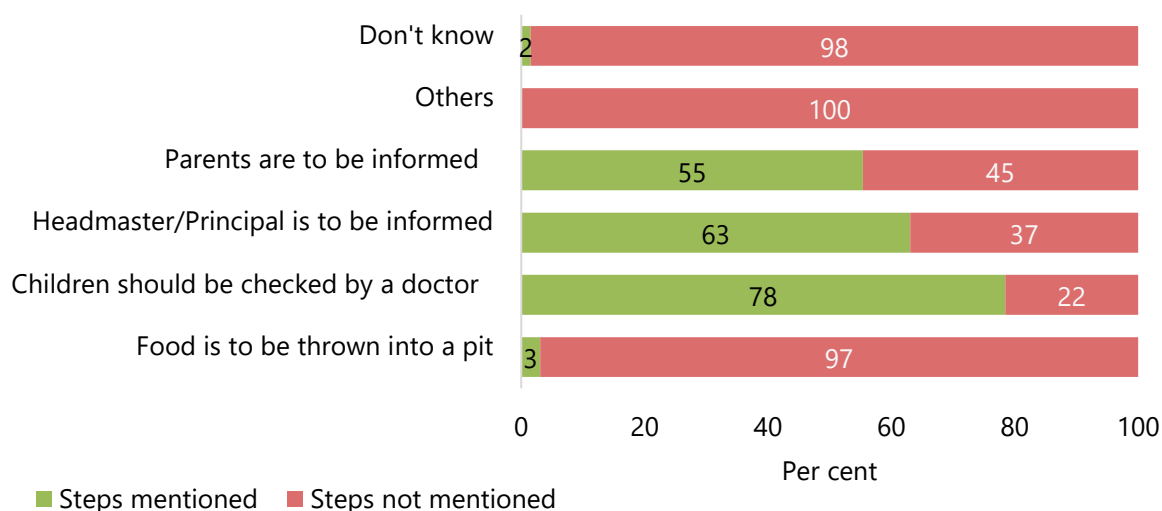
**Awareness level on steps taken when students fall ill after consuming mid-day meal**

Almost 30% of CCHs in Dhenkanal were aware of three or more steps required to manage emergency such as students falling ill after consuming mid-day meals. About 41% of CCHs in Dhenkanal cited two steps and around 28% could only suggest one step in such situations. The most common response reported by CCHs were to inform the headmaster/principal and get children checked-up by a doctor. A considerable percentage of CCHs in Dhenkanal also reported that parents should be informed.

**Chart 36: No. of reasons mentioned by CCHs-Dhenkanal**

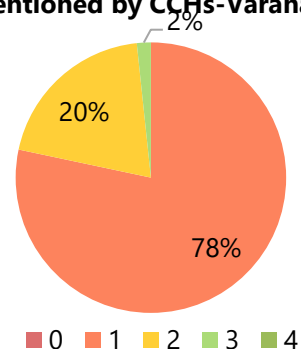


**Chart 37: Proportion of CCHs who mentioned various steps to manage emergency in Dhenkanal**

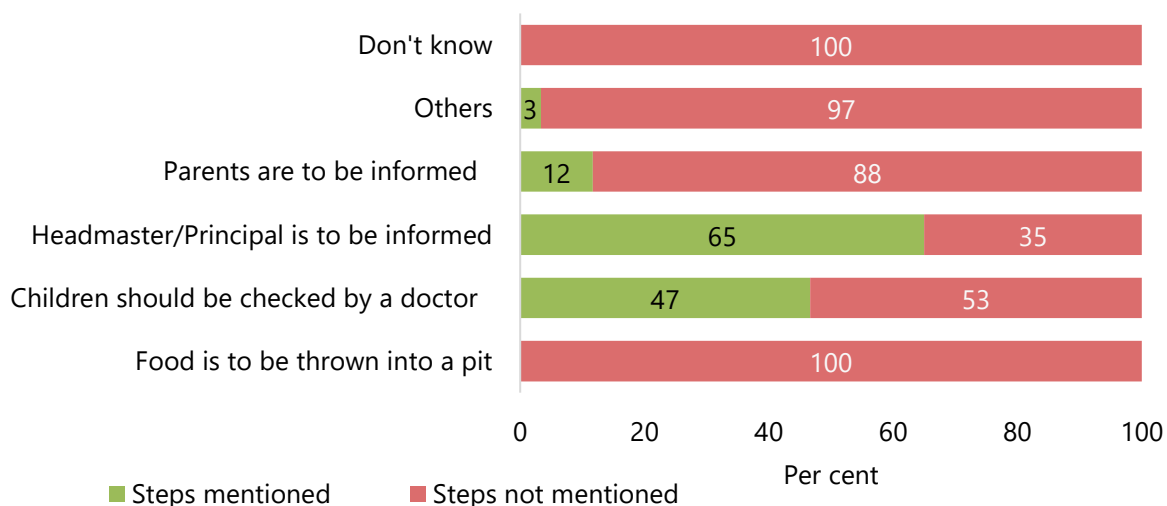


Only 2% of CCHs in Varanasi were aware of three or more steps required to manage emergency such as students falling ill after consuming mid-day meals. About 20% of CCHs in Varanasi cited two steps and around 78% could only suggest one step in such situations. The most common response reported by CCHs were to inform the headmaster/principal and get children checked-up by a doctor. Only 12% of CCHs in Varanasi also suggested that parents should be informed.

**Chart 38: No. of reasons mentioned by CCHs-Varanasi**



**Chart 39: Proportion of CCHs who mentioned various steps to manage emergency in Varanasi**



In this section, we present findings from the statement type questions. Various statements were put forth to the CCHs to record their awareness levels on matters related to Kitchen Food Safety and Hygiene practices (refer: Chart 40).

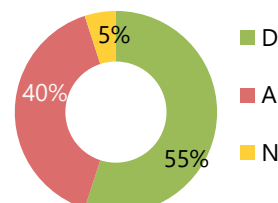
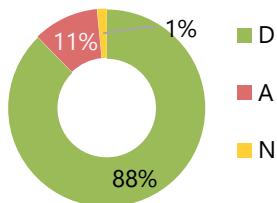
**KEY POINTS**

- High levels of awareness among CCHs were recorded on topics such as personal hygiene, cleanliness and quality of utensils, sources of contaminations, procurement, and storage of raw materials
- Lower levels of awareness were recorded on the topic of waste disposal
- Given the better education levels among CCHs in Dhenkanal, the CCHs fared much better in terms of being more aware not only in their job-related role and responsibilities but also on matters related to technology

**(D=Disagree, A=Agree, N=Neutral)**

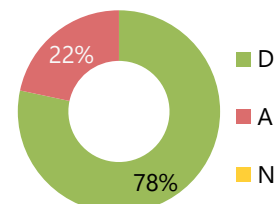
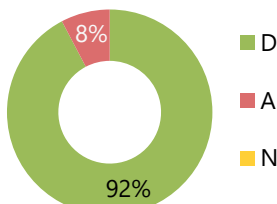
Statements (Chart 40)	Dhenkanal	Varanasi
<b>Personal hygiene</b>		
It is fine to wear jewellery like bangles, ring and watch etc. while preparing the MDM meal		
It is necessary to wash hands after talking on the phone, while preparing the MDM meal		
<b>Cleanliness of kitchen and utensils</b>		
Food can be straight away cooked if the kitchen and utensils are cleaned the previous day		

As long as the food is cooked and served, the quality of the utensils does not matter

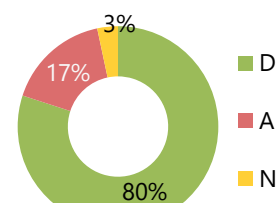
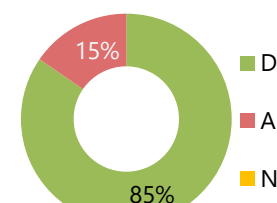


**Modes of contamination**

It is alright to keep items like kerosene, pesticides, mopping and broom stick inside the kitchen while cooking the MDM meals

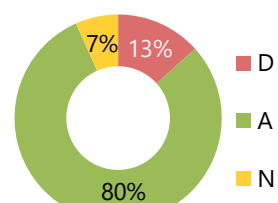
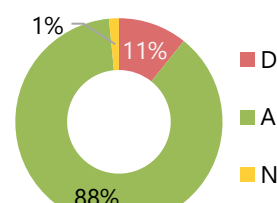


Fungus and bacteria do not contaminate food



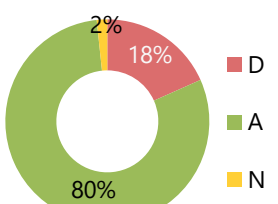
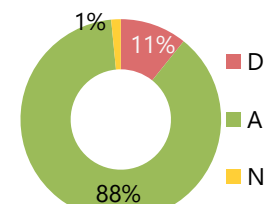
**Procurement quality assurance and storage of raw material**

Food ingredients should always be kept half a foot above the floor and one feet away from the wall

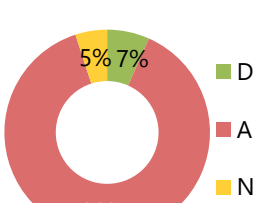
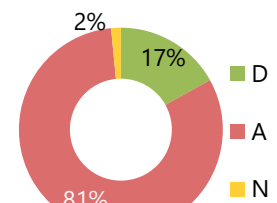


**Methods of cooking for retaining nutrients**

Leafy vegetable loose nutrients if chopped before washing

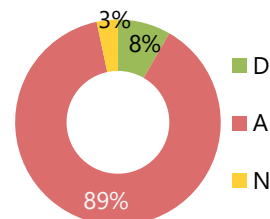
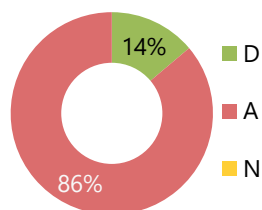


Freshly cooked food can be reheated and served to the children if it gets cold



**Waste disposal**

Peels of vegetables and stale left over food should be thrown out of school compound wall for animals to feed



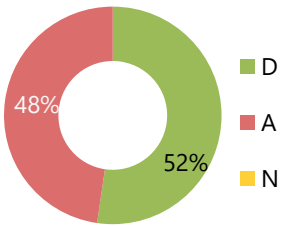
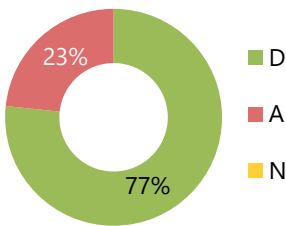
### 3.7 Attitude on carrying out their job responsibility

#### KEY POINTS

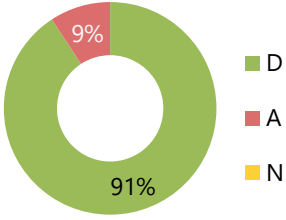
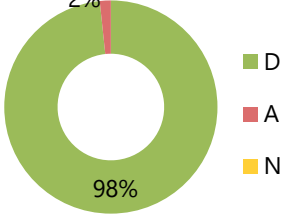
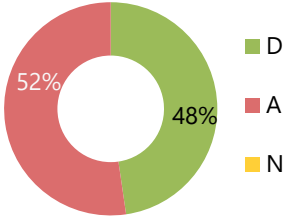
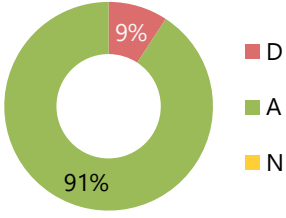
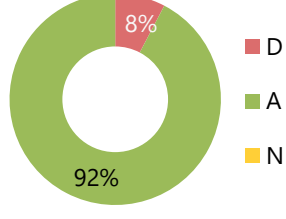
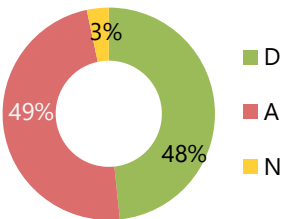
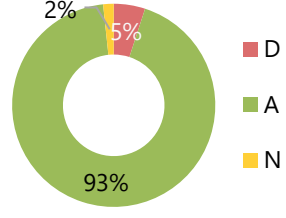
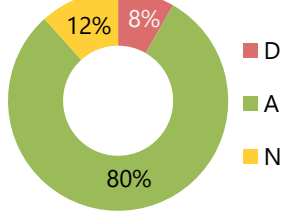
- •CCHs in both locations have demonstrated positive job attitudes in matters related to kitchen cleanliness, serving, sources and modes of contamination
- •CCHs in Dhenkanal have better job attitude towards personal hygiene and cooking methods while CCHs in Varanasi have a better outlook towards their roles and responsibility
- •At least half the CCHs are satisfied with the knowledge they have. More than 90% are ready to attend training on cooking practices
- •Majority of CCHs in Dhenkanal and Varanasi are willing to spend time even beyond working hours to attend the training on cooking practices and job-related functions.

In the Attitude section we aim to understand the outlook of CCHs with regard to their job responsibilities.

**(D=Disagree, A=Agree, N=Neutral)**

Statements (Chart 41)	Dhenkanal	Varanasi																
<b>Roles and responsibilities</b> Only MDM teacher in-charge has a greater responsibility for maintaining the nutrition and hygiene standards of mid-day meals	 <table border="1"> <thead> <tr> <th>Response</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>Disagree (D)</td> <td>52%</td> </tr> <tr> <td>Agree (A)</td> <td>48%</td> </tr> <tr> <td>Neutral (N)</td> <td>0%</td> </tr> </tbody> </table>	Response	Percentage	Disagree (D)	52%	Agree (A)	48%	Neutral (N)	0%	 <table border="1"> <thead> <tr> <th>Response</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>Disagree (D)</td> <td>77%</td> </tr> <tr> <td>Agree (A)</td> <td>23%</td> </tr> <tr> <td>Neutral (N)</td> <td>0%</td> </tr> </tbody> </table>	Response	Percentage	Disagree (D)	77%	Agree (A)	23%	Neutral (N)	0%
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Neutral (N)	0%																	
Response	Percentage																	
Disagree (D)	77%																	
Agree (A)	23%																	
Neutral (N)	0%																	

<p>It is fine to often reach late to the school if you always inform the teacher in charge</p>		
<p><b>Personal hygiene</b> School children will fall sick, every time you do not wash your hands</p>		
<p><b>Cleanliness of kitchen and utensils</b> Cleanliness around the school's kitchen is equally important as cleanliness inside the school's kitchen</p>		
<p><b>Tasting and serving</b> It is sufficient if the cook tastes the mid-day meal before serving it to the children</p>		
<p>Food can be served with bare hands</p>		
<p><b>Methods of cooking for retaining nutrients</b> Water-tight method of cooking is always better</p>		
<p><b>Sources and modes of contamination</b></p>		

<p>It is fine, if any person other than CCH enters the kitchen, while preparing the mid-day meal</p> <p>Cleaning supplies and other materials such as kerosene and pesticides have to be stored separately</p>	 <p>■ D ■ A ■ N</p>	 <p>■ D ■ A ■ N</p>
<p><b>General</b> I am satisfied with the knowledge I have in cooking practices and related functions</p> <p>I am willing to attend any training on cooking practices and related functions in the near future</p> <p>I am willing to attend trainings on cooking practices and related functions even after working hours in school</p>	 <p>■ D ■ A ■ N</p>  <p>■ D ■ A ■ N</p>  <p>■ D ■ A ■ N</p>	 <p>■ D ■ A ■ N</p>  <p>■ D ■ A ■ N</p>  <p>■ D ■ A ■ N</p>

### 3.8 Practices followed while working in their jobs

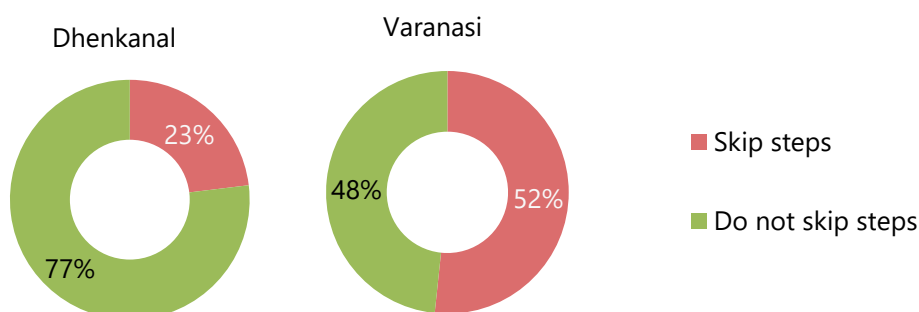
In the Practice section we aim to benchmark what the CCHs actually practice while working at their jobs.

#### KEY POINTS

- •A considerable percentage of CCHs do not follow correct practices with regard to procurement and storage of raw material, healthy cooking methods and personal hygiene
- •CCHs in Dhenkanal are marginally better in following correct practices related to personal hygiene, procurement and storage of raw material and tasting and serving the food they prepare
- •CCHs in Varanasi are marginally better in following correct practices related to methods of cooking for retaining nutrients and cleanliness of kitchen and utensils.

Chart 42 shows a majority (77%) of CCHs in Dhenkanal will follow all the steps required to cook, even if they reach school late due to unavoidable circumstances whereas a considerable percentage (52%) of CCHs in Varanasi are ready to skip some steps in similar circumstances. CCHs in Varanasi do not soak rice and pulses before cooking these. These are washed with clean water and cooked straight away without soaking. Whereas in Dhenkanal, rice and pulses are soaked before cooking and the water is thrown away.

**Chart 42: Skip steps in case of delay**

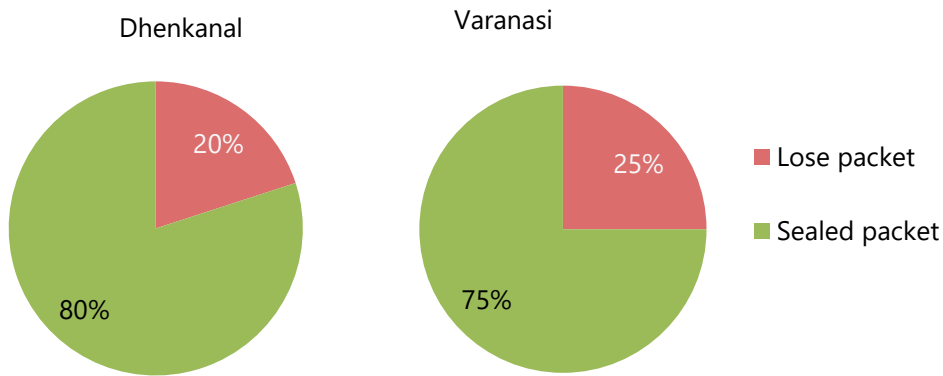


### Practices followed in procurement of food ingredients

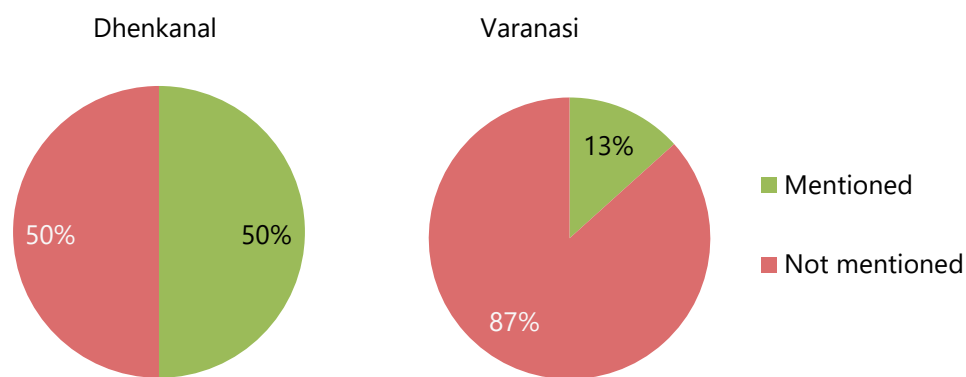
Charts 43, 44 and 45 indicates that the majority of CCHs surveyed do not follow the correct practice for buying food ingredients, and this may also be due to lack of knowledge. If they had to purchase food ingredients like pulses, soya chunks and spices, about 80% of the CCHs in Dhenkanal will buy these in sealed packets, 50% will check expiry dates and about 57% will check for the Agmark sign on the packaging.



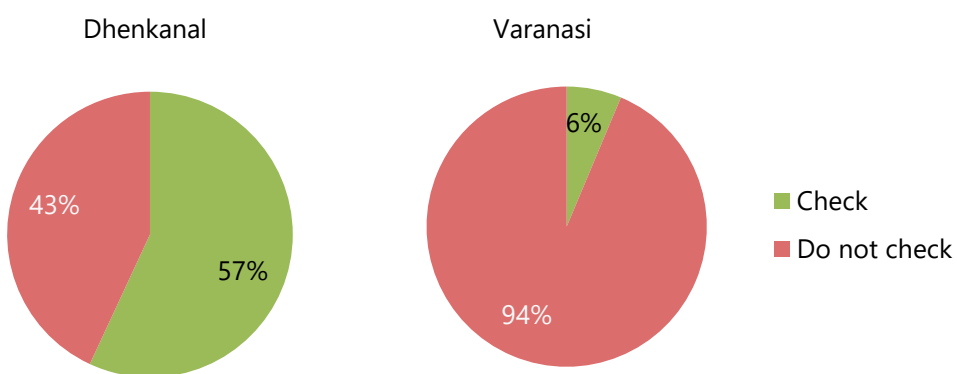
**Chart 43: Practices followed in procurement (packaging)**



**Chart 44: Practices followed in procurement (Checking expiry date)**



**Chart 45: Practices followed in procurement (Checking Agmark sign)**

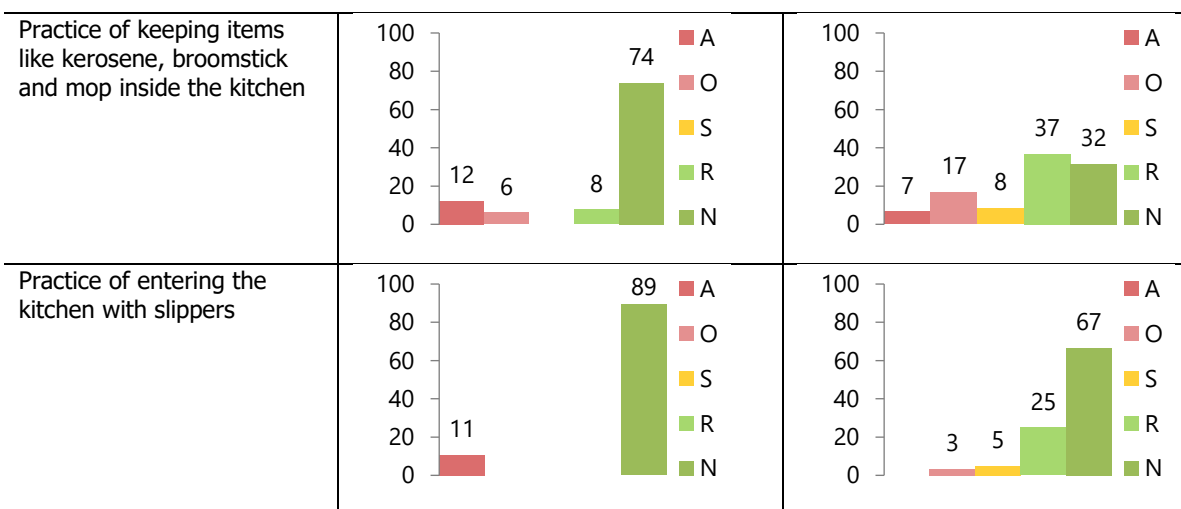


Findings on practices followed by CCHs in doing their job based on statement type questions are presented below in Chart 46.

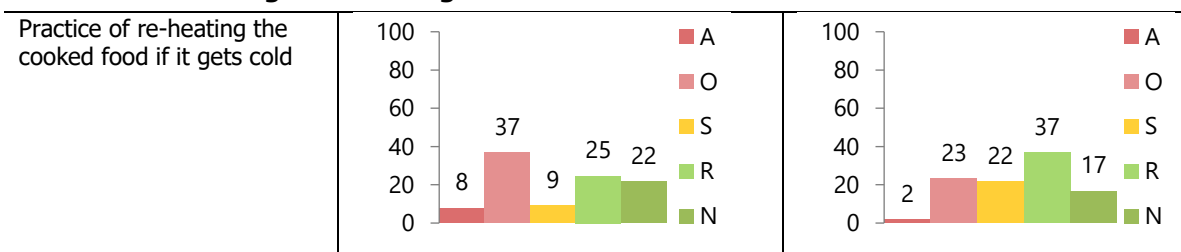
(A=Always, O=Often, S=Sometimes, R=Rarely, N=Never)



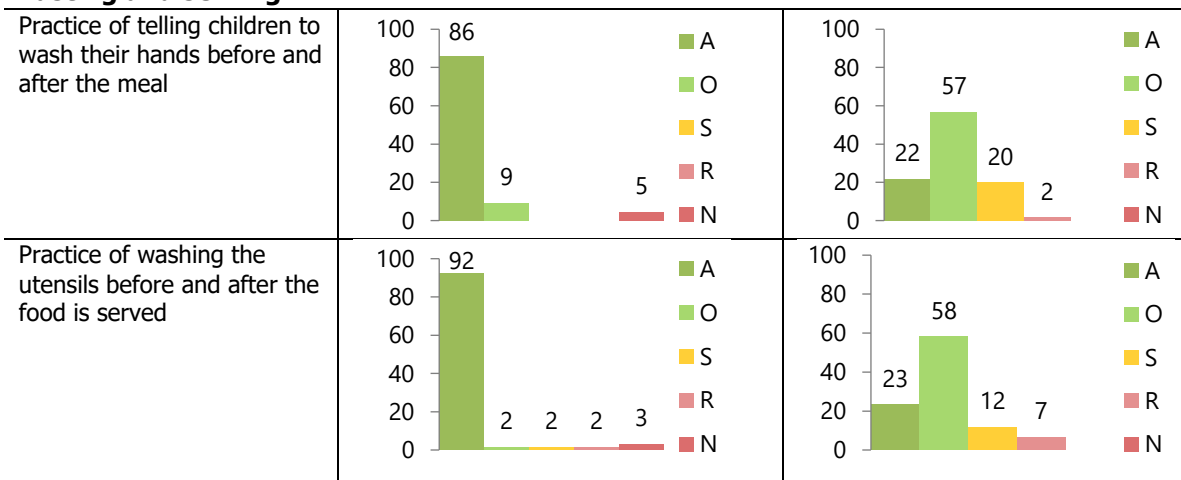
### Sources and modes of contamination



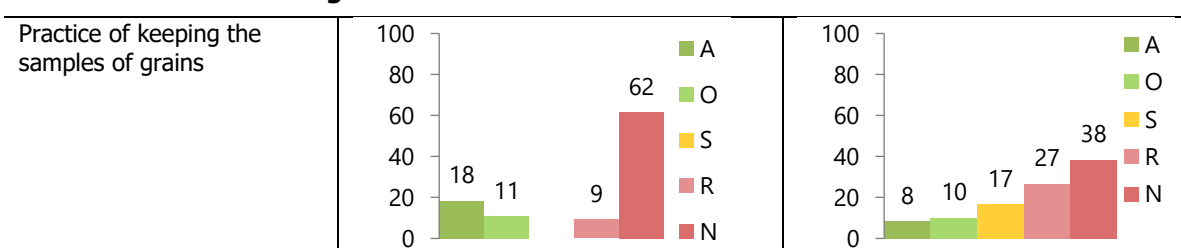
### Methods of cooking for retaining nutrients



### Tasting and serving



### Procurement and storage of raw material



## 4. RECOMMENDATIONS

- **Conduct an ICT-Orientation Session:** The findings suggest a low level of acceptance for training through the App, and that most CCHs find operating smart devices difficult and require help to do so. Therefore, the programme will do well to have initial orientation session to increase the CCHs' familiarity with technology before start of training. Further, it is advisable to hold similar sessions on a periodic basis. The sessions may focus on the following:
  - Boosting the morale of CCHs towards the use of ICT & having a positive learning attitude
  - Educating why prevailing social norms and gender gaps should not deter them from the use of ICT for continuous learning and growth
  - Building comradery among CCHs to build together a learning environment or space
  - Built confidence among CCHs to reach-out to resource persons for help when in need
  - Explain the benefits of being a well-trained professional
- **Encourage Peer Support/Buddy System:** Based on the interest and retention by younger people, the programme should encourage younger and more educated CCHs to take on leadership roles or peer support to older, lesser educated CCHs to generate and maintain interest levels, as also to assist active participation by others.
- **Modules/Assessments Should adequately emphasise on the consequences of 'Modes of Contamination':** Under the practices being followed by the CCHs, although considerable proportion of CCHs are following the correct practices to prevent the issues of contamination, there is a small yet critical proportion of CCHs who do not follow the correct practices. This may lead to immediate serious health consequences of children. Therefore, appropriate emphasis on the seriousness of the consequences should be provided through modules. The programme team may include few questions on this aspect and any difficulty in understanding of such concepts should be resolved through schools' authorities (headmasters/nodal teacher concerned.)
- **Encourage active participation by CCHs in e-learning:** Given that the CCHs has poor levels of education, the only way to make them learn about the ICT based programme is to functional literacy. The only way to achieve this is to take the following initiatives on a perpetual basis.
  - Include teaching staff on a rotational basis to help them get comfortable with the device
  - Group based practice of on a weekly basis
  - Institute competition and reward for good performers

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