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Constraints faced in usage of dairy Utkal app by field veterinarians of coastal Odisha

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Abstract
The present research was conducted among 120 field veterinarians from six coastal districts of Odisha namely Ganjam, Puri, Kendrapara, Jagatsinghpur, Bhadrak and Balasore. It was observed that 81.67 per cent of the respondent veterinarians were male as against 18.33 per cent female, 59.2 per cent belong to middle age group (36-50 years) followed by 27.5 per cent young age group (up to 35 years). An android app on dairy husbandry "DAIRY UTKAL" was developed and the respondent veterinarians were asked to refer the app. After two months, the constraints in using the app were studied. It was found that majority of the veterinarians (85.5%) agreed that the information contained in the app can be a supplement to the existing knowledge. As a whole 91.4 per cent of the respondent veterinarians agreed that the app was technically accurate, in line with the experts and there was no discrepancy in the message. The qualification and experience of the veterinarians may be used properly in the field conditions by providing adequate infrastructure.

Keywords: Android app, dairy husbandry, dairy Utkal, field veterinarians, Odisha

Introduction
Mobile apps are becoming popular now-a-days due to their easy accessibility and availability. This has also proved to be a potent source of information for veterinarians and veterinary students. A cognitive learning scale was developed to access the level of veterinary students on ICT, which helps in enabling the students get proper knowledge on ICT for using different online learning methods (Nanda *et al*, 2022) [5]. A study on 40 KVK scientist and 174 extension officials of Odisha revealed that usage of computer increases self-productivity and is useful in enhancing job performance (Patra *et al*, 2020) [10]. A study conducted in North-Eastern Karnataka and Raitha Samparka Kendra's (RSKs) of Kalaburgi, Yadgir and Raichur districts revealed that 55.97 per cent of the extension personnel were belonging to medium level and 18.66 per cent belonged to high level of ICT usage (Shashidhara, 2020) [11]. It was evident from a study conducted on Tribal farmers in Southern Rajasthan that 60.62 per cent of the respondents were using ICTs during the evening hours as agricultural programmes were telecasted during that time of the day (Jat *et al.,* 2021) [2]. In a study conducted on field veterinarians, it was found that the significant difference was observed between the respondents having less than 10 years and more than 20 years of job experience on the information needs on drugs used, dairy schemes, health parameters, dairy nutrition and dairy breeds, respectively with younger ones with higher estimates (Nanda *et al*, 2020) [7]. Field veterinarians are involved in a lot of field jobs like treatment, extension and rural development. It was concluded from research conducted in Tamil Nadu and Uttar Pradesh that majority of field veterinarians cover an area of 25 sq. km. for providing service to the farmers (Pachaiyappan *et al.*, 2018) [9]. In research conducted on field veterinarians of West Bengal and Odisha, it was found out that the job satisfaction level was slightly higher for respondents of West Bengal than Odisha (Nanda *et al.*, 2022) [5]. The information needs can be fulfilled by providing more information via mobile apps, which can prove as the best medium for enriching the knowledge of the field veterinarians.

Materials and Methods
The present study was conducted among the field veterinarians of six coastal districts of Odisha namely Ganjam, Puri, Kendrapara, Jagatsinghpur, Bhadrak and Balasore. A total of 120 field veterinarians, 20 from each district were selected randomly. The research was conducted in the Department of Veterinary and Animal Husbandry Extension, College of

Veterinary Science and Animal Husbandry, OUAT, Bhubaneswar, Odisha. A structured interview schedule, duly vetted by experts was used for the said purpose. The personal variables considered for study were sex, age, working area, job experience, educational qualification of the respondents and number of trainings attended by the respondents. The percentage of veterinarians in each category was calculated and the results were interpreted. The "Dairy Utkal" App was developed by the researcher in consultation with the technical experts in the line of objectives of the study. The App was uploaded in the "Google play store" and message was sent to all the respondent veterinarians about its online availability through their WhatsApp and e-mail and can be accessed readily by their android mobiles as and when required. After two months of its launch, the constraints faced by the users with respect to its usability, complexity, compatibility and technicality were analyzed in terms of per cent and frequency of the respondents on different aspects of responses.

Results and Discussion
Socio personal variables of the respondent veterinarians
It was evident from Table 1 that 81.67 per cent of the respondent veterinarians were male as against 18.33 per cent female. The reason of having more per cent of male respondents might be posting of more male veterinarians in the study districts than their counter parts. Another reason might be, earlier it has been a trend that male students were opting veterinary profession only, but, now that trend has been changed and many girl students at the rate of even 50:50 are registering for veterinary course.

As per the findings, majority of the respondents i.e., 59.2 per cent belong to middle age group (36-50 years) followed by 27.5 per cent young age group (up to 35 years), 13.3 per cent belong to old age groups (> 50 years), respectively. The reason for less per cent of young and old respondent veterinarians, might be large number of entry level post and senior administrative level posts were lying vacant in the six coastal districts under study. Further, a smaller number of respondents in young age group signifies that very few newly joined veterinarians are posted in coastal areas compared to the experienced ones. In another research on veterinarians, it was found out that 37.4 per cent were in their 40's and 29.2 per cent in their 30's (Joo et al, 2020) [3].

It was also observed that 60 per cent of the respondents' working areas were the semi urban, 24.17 per cent rural and 15.83 per cent the urban area, respectively. The reason might be very few field veterinarians were posted in the urban areas i.e., district headquarters compared to the rest area of the districts. High number in the semi-urban areas indicated that there were less vacancies at the block headquarters than veterinary dispensaries located in the rural areas (2nd VDs). Majority of the respondent veterinarians belonged to the middle age group because in earlier years there was regular recruitment of the field veterinarians as is not happening today for which, a reasonable per cent (45%) of the respondents were having job experience of 10-20 years. Less

per cent (25%) of the respondents was observed having job experience of greater than 20 years, might be due to a smaller number of existing sanctioned administrative post in the department at the time of research.

The result reveals that 44.17 per cent of the veterinarians had higher qualification and 55.83 per cent of the veterinarians had the minimum qualification required for the job. The reason for acquiring the higher qualification and subsequently joined in the field job might be due to the job recession just after completion of basic degree. But, as observed the younger generations are much interested in having higher degree to broaden the scope of their choice of the jobs in future.

It is revealed that 54.17 per cent of respondent veterinarians had attended 10-20 numbers of trainings on dairy husbandry followed by 23.4 per cent more than 20 trainings and 22.6 per cent less than 10 trainings, respectively. This may be due to the fact that more per cent of the respondent veterinarians in the study belonged to the middle age group (59.17%) due to which they got adequate time to be undergone trainings.

Table 1: Distribution of respondents as per the socio personal variables

Sl. No.	Variable		Frequency (N=120)	Percentage
1	Gender	Male	98	81.67
		Female	22	18.33
2	Age	Young age group (up to 35 years)	33	27.50
		Middle age group (36-50 years)	71	59.17
		Old age group (>50 years)	16	13.33
3	Working area	Rural	29	24.17
		Semi urban	72	60.00
		Urban	19	15.83
4	Job experience	<10 years	36	30.00
		10-20 years	54	45.00
		>20 years	30	25.00
5	Educational Qualification	BVSc & AH	67	55.83
		MVSc and above	53	44.17
6	No. of trainings attended	<10	27	22.50
		10-20	65	54.17
		>20	28	23.33

Constraints in using the "DAIRY UTKAL" app
While developing the App, different aspects were considered and meticulously planned to make the App users' friendly and to provide relevant and need based technical information among the veterinarians. But, for further improvement of the App, it was necessitated to know the practical problems faced by the field veterinarians in using the present App. Attempt was made to collect data under for sub headings namely usability, complexity, compatibility and technicality pertaining to the constraints faced by the respondent veterinarians while using the App in the field situation. The data were tabulated and analysed as shown in the table below.

Table 2: Distribution of the respondents based on constraints on usability of the app

Sl. No.	Item	Agree		Undecided		Disagree	
		F	%	F	%	F	%
A.	Usability						
1	Very much useful	114	95.0	6	5.0	0	0
2	Handy to use	117	97.5	3	2.5	0	0
3	Saves time and money	110	91.7	10	8.3	0	0
4	Advantageous over traditional methods	97	80.8	9	7.5	14	11.7
5	Attractive in nature	92	76.7	8	6.7	20	16.7
B.	Complexity						
1	Simple to operate	103	85.8	3	2.5	14	11.7
2	Simple language	89	74.2	7	5.8	24	20.0
3	Easy Navigation	109	90.8	0	0.0	11	9.2
4	Easy to download	104	86.7	0	0.0	16	13.3
C.	Compatibility						
1	Replacement of an expert	42	35.0	9	7.5	69	57.5
2	Supplement to the existing Knowledge	103	85.8	7	5.8	10	8.3
3	Supplement an expert	57	47.5	9	7.5	54	45.0
D.	Technicality of the information						
1	Accuracy	113	94.2	7	5.8	0	0.0
2	In line with the experts	110	91.7	8	6.7	2	1.7
3	No discrepancy in the message	106	88.3	10	8.3	4	3.3

The result in Table 2 reveals that 97.5 per cent of the respondent veterinarians agreed that the App was very handy to use followed by 95.0 per cent very much useful, 91.7 per cent saved time and money, 80.8 percent opined advantages over the traditional methods and 76.7 per cent opined that the said App was attractive in nature, respectively. The reason might be that the customised design of the App facilitated its usability among the users. The reason for a smaller number of respondents agreeing that the app was attractive might be usage of different apps like social media apps which are rather more attractive in nature but as this is an educational app, moderate importance was given to make the app attractive. Similar research conducted on field veterinarians of Odisha revealed that usage of apps was ranked 9th among a total of 11 information sources selected for the study (Nanda *et al*, 2021) [8].
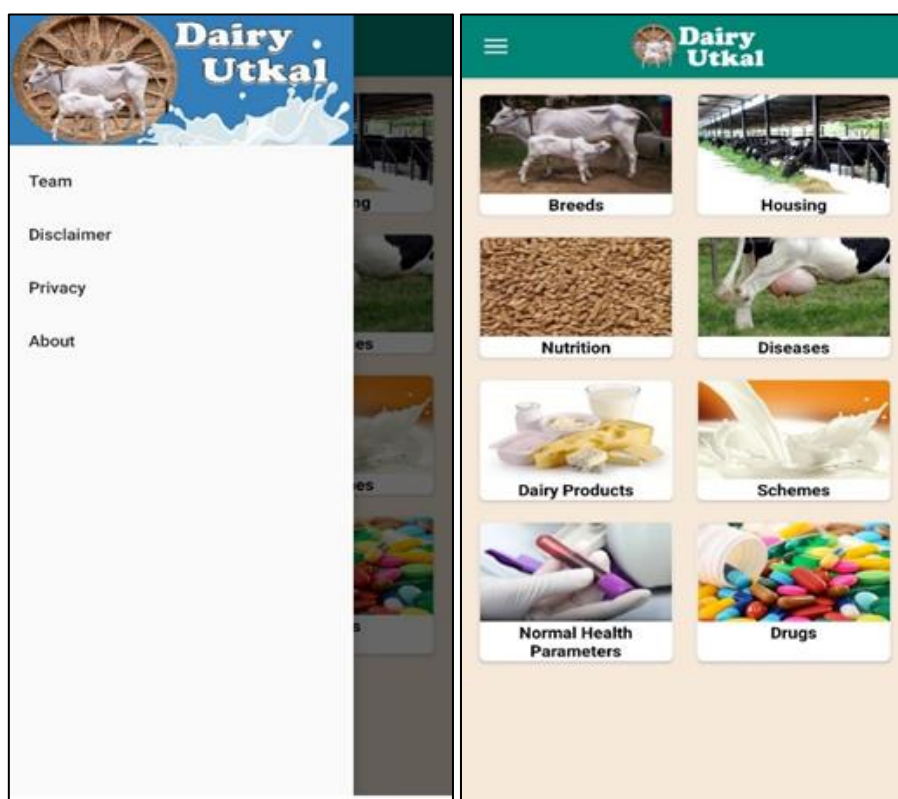

Fig 1: Screenshots of the "Dairy Utkal" App

As a whole, 84.3 per cent of the veterinarians agreed that the App was simple with respect to navigation, language, easy to operate and easy to download the content. The reason might be that there was no lagging while navigating from one activity of the app to another, the app was easily downloaded from Google Play Store, the user interface was very simple to use and care has been taken to provide the materials in a simple language. The result proves that the researcher has been successful in providing a simple app with a lot of information for the field veterinarians.

The reason for majority of the veterinarians (85.5%) agreeing that the information content in the app can be a supplement to the existing knowledge might be they felt that the said content was technically sound and available in a concise manner at the finger tips. It was estimated from a study that the perceived utility of IVRI-Dairy Manager App was good with a score of 19.58 (Sood *et al*., 2020) [13]. It was observed that 57.5 per cent disagreed that app could replace an expert, the reason being the App could not explain the detail on the health-related issues as could be done by the physical presence of an expert. A per cent of 47.5 from the respondents agreed that the app could be a supplement to an expert as there are some information in the App that might suffice the requirement and could be a supplement to an expert. As a whole, 56.11 per cent of the respondent veterinarians agreed that the app was compatible in use with them. Hence, it could be suggested that app needs further improvement to make it more compatible among the users.

It was observed that as a whole 91.4 per cent of the respondent veterinarians agreed that the app was technically accurate, in line with the experts and there was no discrepancy in the message. 94.2 per cent veterinarians expressed their confidence on the content of the App agreeing that the content was accurate because the materials provided in the App have been referred from the standard text books and duly vetted by the experts of the College of Veterinary Science and Animal Husbandry, OUAT, Bhubaneswar, Odisha. It was found out from a study conducted on credibility of information that majority of respondents considered the information available through mobile apps to be trustworthy in nature and correct (Teza 2016) [14], which goes with the findings of the present research. Intensive training on the use of ICT should be encouraged and sufficient funding in ICT should be pursued especially in skills acquisition of extension managers (Matthews-Njoku *et al*., 2007) [4]. A study revealed that "Mobile Phone Agro-Advisory Services Acceptance Model" of m4agriNEI was successful on empowering the tribal farmers of Meghalaya in climate change adoption and mitigation in agriculture (Singh *et al*., 2019) [12].

Conclusion
The personal variables as analyzed in this study may provide a database to the Government. The qualification and experience of the veterinarians may be used properly in the field conditions by providing adequate infrastructure. The problem of recession of jobs must be looked after by the Government. There is further scope in improvement of the designed app and designing many other apps for the animal husbandry sector to enrich the knowledge of field veterinarians, ultimately benefitting the farming community.

Conflict of interest
The authors declare that there is no conflict of interest for this research work.

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