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## Quantitative Content Analysis of Farm Magazines in Andhra Pradesh, India

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### ABSTRACT

Descriptive research design was followed for carrying out the study. The State of Andhra Pradesh was selected purposively for the study as the investigator hails from the state. As the three magazines selected in the study were monthly publications, the total number of issues selected for the study formed 36 issues of a year of a farm magazine. In total, the issues selected in the study comprised of 108 issues from three farm magazines put together. Trend of farm information presented during the reference period was studied with respect to its presentation under thirteen major categories. All the farm information in three magazines was categorized into thirteen major categories during the period of the study; crop production, crop protection, crop mechanization, agro-meteorology, agro-extension-communication, agribusiness management, allied, post-harvest management, organic farming, horticulture, departmental schemes and programmes, question-answers, district specific information. Total number of articles under these broad categories has been computed and is presented in the following Tables. In I, II and III category of farm magazines, total number of articles published were 604, 742 and 791 respectively. Among 604 articles published in I category of farm magazine, majority of articles belonged to crop production followed by crop protection. Among 742 articles published in II category of farm magazine, majority of articles belonged to crop production followed by agro-extension-communication. Among 791 articles published in III category of farm magazine, majority of articles belonged to horticulture followed by crop production. Hence, publication of specific socio economic and situational problems of the farmers of a specific district if highlighted would better attract the readership. Question-answer column in the farm magazines has to encourage farmer-farmer dialogue instead of scientist-farmer dialogue.

#### Keywords

Quantitative content analysis, Farm magazines.

#### Article Info

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### Introduction

Effectiveness of any media depends on its ability to disseminate the message properly so that it is understood, readily accepted and thus facilitated in adoption of the practices. The farm magazines could be made more effective through need based content, proper writing and appropriate usage of cover page, illustrations and contents of format. Berelson (1952) stated that content analysis is a method

of studying and analyzing communications in a systematic, objective and quantitative manner to measure variables. In this study, content analysis was considered as a method of studying the content of communication in order to assess the standard and utility value of the content of farm magazine. The content analysis is quantitative or qualitative in nature. In this study, both quantitative and

qualitative content analysis was done. Quantitative content analysis was studied in terms of trend in the coverage of content and format of presentation. Trend deals with the frequency of information on selected categories, appeared in three farm magazines for a period from 2009 to 2011. Format of presentation is studied as number of articles published under various modes of presentation. The new generation of the farming community is not eager in their ancestral livelihood due to various factors. Farm journals must focus on the commercial farming, diversity of crops and cropping systems in this globalization era to attract the rural youths towards agriculture. News on rural exhibitions, farmers meetings, trainings, social functions should be given much importance. Publication of all such important events, their positive objective is the idealism of all farm journals and journalism. Journalism is basically communication of information and idea for the benefit of the society. In farm journalism the emphasis would be on the need for dissemination of information, idea and such other relevant data for those who are involved with the development of agriculture and animal resources in the country. Techno-logical revolution has further widened the area as well as the concept of social utility journalism. Hence, an attempt was made through the present research project entitled "A study on perception and content analysis of farm magazines in Andhra Pradesh" to obtain a deep insight into above stated aspects.

### **Materials and Methods**

Descriptive research design was adopted for the study. A descriptive study is a sort of fact finding operation with adequate interpretation. It states clearly the characteristics of a particular situation or group or individuals in descriptive design and the variables are assumed to be known.

Hence, the hypotheses are also formulated implicitly or explicitly at the level of statistical regularities descriptively. Based on the criteria of highest circulation as well as the availability of the subscribers for each of the farm magazines, three Telugu farm magazines were selected for the study. They were the publications of Acharya N.G. Ranga Agricultural University (Vyavasayam-I category), state department of agriculture (Padipantalu-II category) and private agency (Annadata-III category) respectively as denoted.

### **Trend and format of presentation**

#### **Trend**

It was the actual distribution of articles under different categories and sub categories. It was expressed in terms of frequency and percentages.

#### **Category**

It was operationalised as the different areas of subject matter under which the published articles have been grouped under.

#### **Sub category**

It was operationalised as sub division of the category. In this study, those categories under which highest frequency was received in each of the volumes were divided into sub categories.

#### **Issue**

Issue was operationalised as a monthly publication of a farm magazine.

#### **Volume**

Volume was operationalised as all the 12 issues of a year of a farm magazine. 2009 year first volume, 2010 year second volume,

2011 year third volume. 2009-2011 was the reference period for the study. As the three magazines selected in the study were monthly publications, the total number of issues selected for the study formed 36 issues (ni) of a year of a farm magazine. In total, the issues selected in the study comprised of 108 issues (tni) from three farm magazines put together.

### **Format of presentation**

It was operationalised as mode of presentation of articles by writers. Different modes of presentation were as follows.

#### **News story**

News writing is about telling a story quickly and concisely by using an inverted pyramid structure. It means starting with the most important information, then putting the next most important information and so on.

It starts with the facts and then adds the background by using 5'W's and 1'H'. It reminds us to include the who, where, what, Why, when and how of a story.

#### **Feature story**

The feature story is usually by a writer giving back-ground information on technology or personalities in the news. The writer depends on his own understanding of the subject and on his own power of observation to produce a feature.

#### **Popular article**

The popular article is one wherein the research results which are beneficial to farmers are communicated through proper communication channels (print/electronic) in interesting and understandable manner by using more number of personal words and personal sentences.

### **Success story**

It is a kind of story narrating the success of an individual or a group, an event or programme, a project or an experiment and the like. Success stories highlight the success being achieved with support of officials.

### **Others**

It is operationalised as those articles which were published in the form received from researchers without processing of the same. These do not have any specific format.

To study format, the sub category in which higher frequencies of articles were published in each of the volumes of the farm magazines were selected for the study. The format of those articles under sub category of cereals and oil seeds (in I and II category of farm magazines) and those under sub category of vegetables and fruits (in III category of farm magazine) were considered for studying this variable.

### **Trend and formats of presentation**

#### **Trend**

On thorough reading of selected issues, the available information was categorized under thirteen major categories; crop production, crop protection, crop mechanization, agrometeorology, agro-extension-communication, agribusiness management, allied, post-harvest management, organic farming, horticulture, departmental schemes and programmes, question-answers and district specific information. The articles published under the respective categories were tabulated as frequencies. The frequencies of articles distributed under a category in all volumes of a farm magazine were summed up and the percentage was worked out. Similar procedure was applied to other two farm

magazines also. The category (crop production) which received highest frequency of articles during three year period of study was again sub categorized into five (for I and II farm magazines) and category (horticulture) into six sub categories (for III farm magazine) based on situation. Articles were accordingly distributed under various sub categories and tabulated as frequencies. Thus, the trend of presentation of articles was studied.

### **Format**

Only those sub categories in which highest percentages were recorded in each volume of farm magazine were selected to study the formats of presentation. Articles were accordingly distributed under various sub categories and tabulated as frequencies. The format of those articles under sub category of cereals (in I and II) and those under sub category of vegetables and fruits (in III) were considered for studying this variable. The formats of presentation of articles were divided into five types; news story, feature story, popular article, success story and others.

### **Results and Discussion**

#### **Trend analysis in coverage of content in three farm magazines**

All the articles published in three farm magazines under consideration during study period were grouped into different aspects of farmer's interests and presented in following tables.

Table 1 revealed that all the farm information in three magazines was categorized into thirteen major categories during the period of the study; crop production, crop protection, crop mechanization, agro-meteorology, agro-extension-communication, agribusiness management, allied, post-harvest management, organic farming, horticulture,

departmental schemes and programmes, question-answers, district specific information.

Total number of articles under these broad categories has been computed and is presented in the following tables. In I, II and III category of farm magazines, total number of articles published were 604, 742 and 791 respectively.

Among 604 articles published in I category of farm magazine, majority (50.00%) of articles belonged to crop production followed by crop protection (12.91%) horticulture (6.79%), question-answers (5.96%) and crop mechanization (5.79%) in respective order. Articles relating to post harvest management (4.30%), agro-extension-communication (3.64%), allied (3.48%), organic farming (2.98%), agro-meteorology (1.82%), agribusiness management and departmental schemes and programmes (1.16%) in respective order were less than five per cent. There were no articles on district specific information during the period in I category of farm magazine (Table 1).

Among 742 articles published in II category of farm magazine, majority (21.29%) of articles belonged to crop production followed by agro-extension-communication (14.56%), crop protection (12.40%), departmental schemes and programmes (10.92%), allied (7.68%), agro-meteorology and horticulture (7.28%) in respective order.

Articles relating to question-answers (4.85%) and district specific information (4.85%), organic farming (3.10%), post-harvest management (2.56%), crop mechanization (2.02%), agribusiness management (1.21%) in respective order were less than five per cent. So, in general, the result revealed that I and II category of farm magazines published mostly 'crop production' articles for dissemination of farm information (Table 1).

Among 791 articles published in III category of farm magazine, majority of articles belonged to horticulture (27.81%) followed by crop production (16.56%), allied (15.17%), crop protection (10.24%), departmental schemes and programmes (6.19%) in respective order. Articles related to question-answers (4.55%), district specific information (4.55%), organic farming (4.30%), agribusiness management (2.78%), crop mechanization (2.65%), agro-extension-communication and post-harvest management (2.15%) and agro-meteorology (0.88%) in respective order were less than five per cent.

The result revealed that III category of farm magazine preferred mostly 'horticulture' articles for dissemination of farm information (Table 1). Moreover, horticulture was highly emphasized by government through its developmental programmes and hence, farmers showed more interest towards this sector. Having realized the change, III category of farm magazine had given more emphasis to 'horticulture'.

It was revealed from the table 1 that in 2011 publishing of articles on crop production in three farm magazines have slowed down compared to in 2010.

Crop production involved thrust of information on agronomic, mechanical and cultural aspects of information. Thrust on these areas was found to be reduced. In 2011, crop production category was replaced by other categories in all the three farm magazines under study and thus, there was less dissemination of information through print media on production aspects.

For detailed study on preferential selection, all the major categories were again separately divided into different sub-categories according to type of information published in all the three selected farm magazines during

the period of study. Farm information published in relation with different sub-categories were counted separately for major categories and presented in the following tables.

Table 2 revealed that distribution of articles published in I and II category of farm magazines under different subcategories of 'crop production'. The total articles obtained for sub-category of 'crop production' in I and II category of farm magazines were 302 and 158 respectively during the selected period. It was found that among 302 articles, the majority (31.13%) of articles appeared in I category of farm magazine belonged to cereals followed by oil seeds (25.17%), commercial (21.52%), pulses (19.21%) and millets (2.98%) in respective order. Out of 158 articles in II category of farm magazine majority (33.54%) of articles belonged to cereals followed by oil seeds (29.11%), pulses (16.46%), commercial crops (14.56%) and millets (6.33%) in respective order.

Table 2 revealed that in both I and II category of farm magazines more priority was given to cereals followed by oilseeds for dissemination of farm information to the readers during the selected period. In 2011 publishing of articles on cereals in I and II category of farm magazines have shown a downward trend compared to in 2010 and 2009.

This subcategory was replaced by other subcategories in I and II category of farm magazines under study. In 2011, publishing of articles in oilseeds in I and II farm magazines have increased as compared to in 2010 and 2009 due to their nutritional and economic factors. Oilseed crops are set to regain their important role in nutritional food security and also they are a source of foreign exchange. Special attention is needed to improve the production and protection technologies of these crops.

**Table.1** Distribution of articles under different categories of farm information published in sampled issues of selected farm magazines

S.No	Categories	n <sub>i</sub> =108					n <sub>i</sub> =36					n <sub>i</sub> =36				
		I					II					III				
		2009	2010	2011	Total		2009	2010	2011	Total		2009	2010	2011	Total	
		F	F	F	F	%	F	F	F	F	%	F	F	F	F	%
1	Crop production	99	105	98	302	50	51	63	44	158	21.3	41	50	40	131	16.56
2	Crop protection	18	25	35	78	12.9	29	32	31	92	12.4	26	34	21	81	10.24
3	Crop mechanization	8	11	16	35	5.79	6	2	7	15	2.02	8	10	3	21	2.65
4	Agro-meteorology	3	4	4	11	1.82	16	18	20	54	7.28	3	2	2	7	0.88
5	Agro-extension-communication	6	7	9	22	3.64	43	25	40	108	14.6	5	4	8	17	2.15
6	Agribusiness management	2	2	3	7	1.16	3	2	4	9	1.21	8	8	6	22	2.78
7	Allied	5	7	9	21	3.48	19	19	19	57	7.68	49	48	23	120	15.17
8	Post-harvest management	5	6	15	26	4.3	6	10	3	19	2.56	10	4	3	17	2.15
9	Organic farming	4	6	8	18	2.98	7	5	11	23	3.1	9	11	14	34	4.30
10	Horticulture	8	10	23	41	6.79	11	24	19	54	7.28	81	59	80	220	27.81
11	Departmental schemes and programmes	2	3	2	7	1.16	29	32	20	81	10.9	20	11	18	49	6.19
12	Question-answers	12	12	12	36	5.96	12	12	12	36	4.85	12	12	12	36	4.55
13	District specific information	0	0	0	0	0	12	12	12	36	4.85	12	12	12	36	4.55
	Total	172	198	234	604		244	256	242	742		284	265	242	791	

**Table.2** Distribution of articles published under different sub categories of crop production in I and II categories of farm magazines

S.No.	Sub categories	No. of articles																		
		I					II													
		2009		2010		2011	Total		2009		2010		2011	Total						
		F	%	F	%	F	F	%	F	%	F	%	F	%						
1	Cereals	31	9.68	35	11.43	28	3.12	8	8.16	94	31.13	18	5.52	21	6.67	14	4.47	53	16.77	33.54
2	Millets	5	1.56	2	0.63	2	0.63	9	2.98	9	2.98	3	0.94	5	1.56	2	0.63	10	3.12	6.33
3	Pulses	20	6.45	21	6.67	17	5.31	58	19.21	58	19.21	10	3.12	12	3.77	4	1.25	26	8.06	16.46
4	Oil seeds	21	6.67	23	7.29	32	10.0	76	23.77	76	23.77	13	4.06	15	4.69	18	5.62	46	14.44	29.11
5	Commercial	22	6.94	24	7.58	19	5.94	65	20.46	65	20.46	7	2.19	10	3.12	6	1.88	23	7.29	14.56
	Total	99	30.94	105	32.94	98	30.31	302	94.77	302	94.77	51	15.64	63	19.69	44	13.71	158	48.84	

**Table.3** Distribution of articles published in III category of farm magazine under different sub categories of 'horticulture'

S.No.	Sub categories	No. of articles						
		III						
		2009		2010		2011	Total	
Horticulture		F	%	F	%	F	F	%
1	Vegetables	34	35.1	14	14.5	31	79	35.1
2	Spices and condiments	3	5.91	2	3.92	8	13	5.91
3	Ornamental and medicinal plants	4	7.69	1	1.96	3	8	3.64
4	Plantation crops	6	11.76	6	11.76	7	19	8.64
5	Fruits	31	59.43	29	55.56	25	85	38.64
6	Flowers	3	5.91	7	13.27	6	16	7.27
	Total	81	155.05	59	111.05	80	220	100.00

**Table.4** Distribution of articles of selected three farm magazines based on formats of presentation

S. No.	Format of presentation	I								II								III							
		2009		2010		2011		Total		2009		2010		2011		Total		2009		2010		2011		Total	
		F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%
1	News Story	3	9.68	4	11.43	1	3.12	8	8.16	4	12.20	2	9.52	3	16.67	9	15.79	8	23.53	7	24.14	5	16.13	20	21.28
2	Feature Story	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
3	Popular Article	2	6.45	0	0.00	0	0.00	2	2.04	0	0.00	1	4.76	0	0.00	1	1.75	1	2.94	1	3.45	2	6.45	4	4.26
4	Success Story	5	16.13	8	22.86	3	9.38	16	16.33	1	5.56	0	0.00	2	11.11	3	5.26	2	5.88	1	3.45	1	3.23	4	4.26
5	Others	21	67.74	23	65.71	28	87.5	72	73.47	13	72.20	18	85.70	13	72.22	44	77.19	23	67.65	20	68.96	23	74.19	66	70.21
	Total	31		35		32		98		18		21		18		57		34		29		31		94	

From table 3 revealed that majority of articles appeared in III category of farm magazine belonged to horticulture area. Hence, it was subdivided into six subcategories as vegetables, spices condiments, ornamentals and medicinal plants, plantation crops, fruits and flowers. Among 220 articles in a given reference period in horticulture subcategory of III category of farm magazine, majority (38.64%) of articles belonged to fruits followed by vegetables (35.10%), plantation crops (8.64%), flowers (7.27%), spices and condiments (5.91%) and ornamentals and medicinal plants (3.64%) in respective order.

The result revealed that the III category of farm magazine published mostly articles on 'fruit production'. This is because of shift in cultivation to horticulture from food crops. This is in conformity with the results of Vatta *et al.*, (2010), Narkar (2011) and Suryabhan (2004).

The role of print media is disseminating useful and scientific knowledge to farmers would continue to grow in future with the increasing literacy level in rural India and hence agriculture information needs to be given more coverage by all the farm magazines.

### **Formats of presentation in three farm magazines**

There are different modes of presentation of agricultural information to farmers. Selection of mode depends on the information to be disseminated, objective and nature of clientele. News story, feature story, popular article, success stories are some popular formats of information presentation generally being used by farm magazines. Here, attempt has been made to classify the articles according to different categories of formats and presented in table 4.

Table 4 revealed that the total frequency of articles published in different formats in three farm magazines were 98, 57 and 94 respectively during the period. In I category of farm magazine among 98 articles published, majority of the articles were 'others' (73.47%). The formats of presentation of articles which followed 'others' were 'success story' (16.33 %), 'news story' (8.16 %) and 'popular articles' (2.04 %) in respective order. There were no articles published in the form of 'feature story'. In II category of farm magazine among 57 articles published, majority of articles were 'others' (77.19 %) followed by 'news story' (15.79%), 'success story' (5.26%) and 'popular articles' (1.75%) in respective order. There were no articles in the form of 'feature story'. In III category of farm magazine among 94 articles published, majority of articles were 'others' (77.19 %) followed by 'news story' (15.79%). 'Popular articles' and 'success story' (4.26% each) were given equal preference. There were no articles in the form of 'feature story'.

The result revealed that almost all articles published in three farm magazines were found to be 'others'. A limited number of articles were published in form of popular article. It further revealed that there was no article published in form of feature story. The editors of farm magazines published the articles given by research scientists without any modifications/processing. Hence, the readers of the study also expressed their difficulty in understanding (Table 4). In these articles, they did not use local language, personal words and personal sentences and hence lacked human interest. These articles have to be treated well to make the message clear, understandable and realistic to the farm magazine readers. Designing treatment usually requires original thinking; deep insight into the principle of human behaviour, skill in creating and using refined techniques



of message presentation. This is in conformity with the results of Goswami *et al.*, (2010), Vatta *et al.*, (2010) and Kumar (2002).

The second finding on trend analysis indicated that the percentage of articles on district specific information composed less than five per cent. The publication of only agricultural technologies in farm magazines made the presentation dull and mechanical. Hence, publication of specific socio economic and situational problems of the farmers of a specific district if highlighted would better attract the readership.

Question-answer column in the farm magazines has to encourage farmer-farmer dialogue instead of scientist-farmer dialogue.

The findings on formats of presentation revealed that there were no scientific articles in form of feature story. Feature stories need to include not only what happened 'but also' how it happened along with background of story, reaction of people and importance of technology on human life i.e., news needs to be interpreted with reference to content as it better educates the readers. If there is an instance of a potentially interesting story in a village (experimenting new or reviving old technology) the publishing authority can encourage the concerned editor (preferably an agricultural graduate) to visit the farmer who

has reported innovation, to investigate and verify it and work with the farmer to produce an article. Thus, the articles produced will be based on first hand farmer experience rather than the repetition of textbook recommendations. The articles give the adaptation of farmers over a wide range of farm management problems. This helps many other farmers or readers to capitalise on the ideas featured in the magazine. These feature stories thus evolved would attract loyal readership, encourages farmer-farmer contact which in turn helps in wider adoption of technologies. In addition to this, success stories of farmers and discussion on relevant indigenous practices may also be tried.

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