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Note

Content analysis of fisheries *vis-a-vis* agriculture and animal husbandry based (*Krishidarshan*) live-phone-in television programmes in West Bengal

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ABSTRACT

Content analysis is a research method that uses a set of procedures to make valid inferences from text. This is used extensively in media communication. *Krishidarshan* is an agriculture based television show of Doordarshan, with various segments including live-phone-in programmes. A study was carried out to perform content analysis of live-phone-in television programmes of *Krishidarshan* in West Bengal from 2007-2012. For this, secondary data was accessed from telecast register of *Krishidarshan*, Doordarshan Kendra Kolkata. Sector specific classification namely agriculture, animal husbandry and fisheries, was done. Experts' involvement from different organisations was also recorded. Appropriate descriptive statistics and parametric tests were used. It was found that majority of programmes were related to agriculture (86.98%) followed by animal husbandry (7.37%) and fisheries (5.65%). Results of analysis of variance revealed significant difference between number of programmes under each sector. Under agriculture related topics, programmes on agriculture schemes were highest with 9.04% and for animal husbandry, programmes related to poultry and duck farming were highest with 26.67%. In case of fisheries, topics related to fish health and pond management were highest (43.8%). Majority of experts were from Department of Agriculture in case of agriculture based programmes and from State Agriculture Universities for animal husbandry and fisheries.

Keywords: Agriculture, Animal Husbandry, Content Analysis, Fisheries, Live-phone-in programme, Television

Media content analysis became increasingly popular as a research methodology during the 1920s and 1930s for investigating the rapidly expanding communication content of movies (Macnamara, 1999). In the 1950s, media content analysis proliferated as a research methodology in mass communication studies and social sciences with the arrival of television. Content analysis can be applied for printed literature and also for recorded communications. In the present study, content analysis has been performed with reference to *Krishidarshan***,** the agriculture based live-phone-in television programmes in West Bengal (W.B.), India. It is telecast by Doordarshan Kendra Kolkata (DDK-Kolkata) at 17.30 - 18.00 hrs, Monday to Friday. *Krishidarshan* was launched in West Bengal by Department of Agriculture and Cooperation, Ministry of Agriculture, Government of India in the year 2005. It is a special audience programme, under the scheme Mass Media Support to Agriculture Extension which is a Central Sector Scheme. *Krishidarshan* includes different live-phone-in programmes and recorded-field-based programmes (Ghosh, 2013). Live-phone-in programmes are mainly carried out in studios in the presence of experts from various disciplines of agriculture. Live phone calls from the viewers are allowed to enable interaction between the viewers and the experts for immediate advisories. Every week there are two live-phone-in programmes telecast through *Krishidarshan*.

Generally, *Krishidarshan* has 3 major segments under a complete programme, with different time slots. The first segment is live news bulletin on agricultural sciences, which is further divided into *khet khobor* (news related to different success stories, new technologies, agri-equipments, agri-advisory and weather forecasts) and *hate-bazare* (news related to commodity-wise price forecasting in different regulated and unregulated markets). The allotted time for this segment is approximately 10 min. The live-phone-in and recorded-field-based programmes are telecast under the second segment for approximately 17 min. Under the third segment, different agricultural spots on *harit kranti*, pulses, *kisan* call centre, farmers' field school and National Food Security Mission are telecast for around 3 min. Prior online availability of *krishidarshan*'s programme schedule was introduced

recently on the website *navkrishi.dacnet.nic.in,* under the scheme of Content Scheduling and Management System. In the present study, content analysis of krishidarshan) live-phone-in television programmes in West Bengal from 2007-2012 was performed in order to gain insights over time and to analyse sector specific programmes.

To achieve the objective of the study, secondary data were accessed from telecast register of *Krishidarshan,* DDK-Kolkata from the period 2007 to 2012. The list of live-phone-in programmes was procured from the register with due permission from the authorities and they were later classified as sector specific programmes namely agriculture, animal husbandry (AH) and fisheries based programmes. Along with this, experts' involvement in these programme from different organisations was also recorded. Appropriate descriptive statistics and parametric tests were done to analyse the data. Analysis of Variance (ANOVA) with one way classification was done to test the hypothesis whether there is a significant difference as regards to the number of agriculture, AH and fisheries based live-phone-in programmes.

Based on the information collected, sector-wise classification of *krishidarshan* live-phone-in programmes is presented in Table 1.

Majority of live-phone-in programmes were related to agriculture based topics (86.98%) followed by AH (7.37%) and fisheries based topics (5.65%) (Fig. 1). During the years 2008 and 2012 only one fisheries based programme had been telecast. There was a decrease in the number of programme from 2010 onwards in all sectors. Reasons reported by the authorities were lack of trained and competent technicians (Fig. 2)

Majority of the rural population in India depends on agriculture and allied activities for their livelihood (Mohanty *et al.*, 2011). According to Central Statistics Office (CSO, 2011), out of a total share of 14.6% of the GDP in 2009-10 for agriculture and allied sectors, agriculture alone accounted for 12.3% followed by forestry with 1.5% and fisheries at 0.8% in terms of composition. It is also worthwhile to mention that Ayyappan *et al.* (2011) reported that Indian fisheries occupy

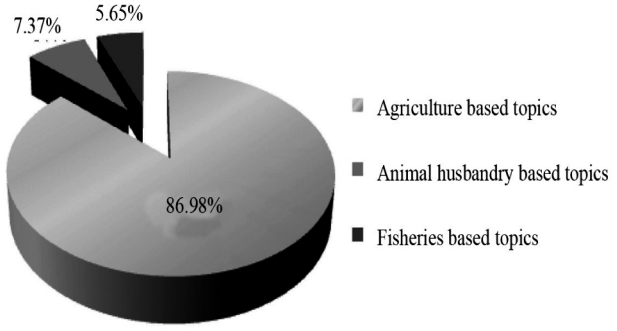

Fig. 1. Composition of live-phone-in programmes in *Krishidarshan*

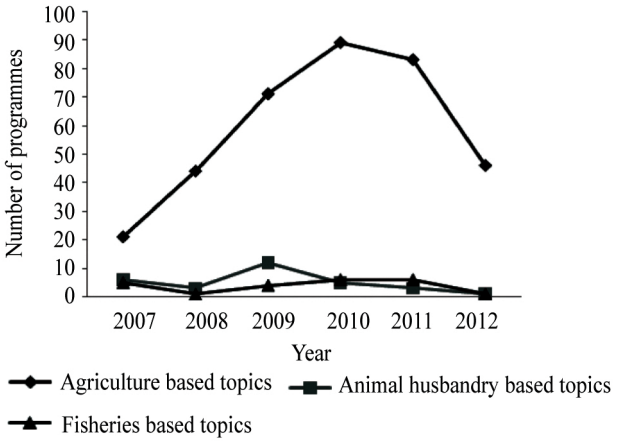

Fig 2. Trend in number of live-phone-in TV programmes in *Krishidarshan*

the second position in global fish production with an annual growth rate of 4.7%, recording 3.2% growth in marine sector and 6.2% growth in inland sector, thereby contributing 1.1% to the total GDP and 5.3% to agricultural GDP of the nation.

In West Bengal, fisheries sector's contribution to State Domestic Product at current price for the year 2009-10 was 3.33%. West Bengal ranked first in total fish production in the country, producing 15.38 lakh t in 2011 (Department of Fisheries Department of Fisheries (DoF), 2011) from inland and marine sectors. In spite of this, only 23 (5.65%) live-phone-in programmes related to fisheries based topics had been telecast during the last five years compared to

Table 1. Information about live-phone-in TV programmes of *krishidarshan*

Topic	Numbers and percentage						Total	Percentage
	2007	2008	2009	2010	2011	2012		
Agriculture	65.63%	91.67%	81.61%	89.00%	90.22%	95.83%	354	86.98
Animal husbandry	18.75%	6.25%	19.79%	5.00%	3.26%	2.08%	30	7.37
Fisheries	15.63%	2.08%	4.60%	6.00%	6.52%	2.08%	23	5.65
Total	32	48	87	100	92	48	407	-

354 numbers in Agriculture and 30 in AH. So there is a need to increase the number of fisheries based programme to enable fishers and other stakeholders to get acquainted with the recent advancements in fisheries and aquaculture.

It was encouraging to find that special initiatives are being taken by the *Krishidarshan* unit, DDK-Kolkata in collaboration with Department of Fisheries, Government of West Bengal to increase the number of fisheries based programmes. DDK-Kolkata is also in the process of introducing improved usage of multimedia, graphics and animations.

Analysis of variance indicated significant difference between the number of agriculture, AH and fisheries based live-phone-in-programmes (α of 0.05). Results of the content analysis of sector specific programmes are presented in Tables 2-4.

Among the agriculture based programmes, topics related to agriculture schemes ranked first with 32 (9.04 %) out of 354 programmes, followed by oil seeds cultivation, general paddy cultivation and fruits and vegetables cultivation. With reference to programmes related to women in agriculture, only one programme had been telecast.

Table 2. Content analysis of live-phone-in agriculture based TV programmes of *Krishidarshan*

Topic	Number of programmes							%	Rank
	2007	2008	2009	2010	2011	2012	Total		
Agricultural schemes/Programmes	1	11	9	6	3	2	32	9.04	1
Oil seeds cultivation	0	3	3	8	7	5	26	7.34	2
General paddy cultivation and its technologies	1	1	3	6	6	7	24	6.78	3
Fruits and vegetables cultivation	5	3	3	6	5	2	24	6.78	4
**Boro* paddy cultivation	1	1	4	8	6	3	23	6.5	5
Jute cultivation	2	3	4	7	3	4	23	6.5	6
Organic farming/fertilizers/nutrients	0	2	6	6	5	1	20	5.65	7
***Aman* paddy cultivation	0	4	6	4	3	2	19	5.37	8
Potato cultivation	1	2	3	5	4	1	16	4.52	9
Pulses cultivation	0	2	4	4	4	1	15	4.24	10
Agri-health management and plant protection	0	3	2	2	4	3	14	3.95	11
Seasonal crops cultivation	2	1	2	4	2	2	13	3.67	12
Soil testing-conservation/ water and land development	0	0	2	3	5	3	13	3.67	13
Wheat cultivation	1	2	1	2	3	0	9	2.54	14
Farm news	0	0	2	3	2	1	8	2.26	15
Flower cultivation	1	1	0	0	4	1	7	1.98	16
Maize cultivation	1	0	1	2	1	2	7	1.98	17
Agriculture planning	0	0	2	3	1	1	7	1.98	18
Fodder cultivation	1	0	2	1	1	0	5	1.41	19
General agricultural practices	0	0	0	0	4	1	5	1.41	20
Sugarcane cultivation	0	1	1	1	0	1	4	1.13	21
Coconut cultivation	0	0	1	1	1	1	4	1.13	22
Groundnut cultivation	1	1	0	1	0	1	4	1.13	23
Employment opportunities in agriculture	0	0	1	2	0	0	3	0.85	24
Farm machineries	0	1	0	0	1	1	3	0.85	25
Farm services	0	1	1	0	1	0	3	0.85	26
***Aush* paddy cultivation	0	1	1	0	0	0	2	0.56	27
Cotton cultivation	0	0	1	1	0	0	2	0.56	28
Spices cultivation	1	0	0	0	1	0	2	0.56	29
Agriculture marketing	0	0	1	1	0	0	2	0.56	30
Modern agricultural practices	0	0	1	1	0	0	2	0.56	31
Medicinal plants cultivation	0	0	1	0	0	0	1	0.28	32

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Topic	Number of programmes							%	Rank
	2007	2008	2009	2010	2011	2012	Total		
Betel leaves cultivation	0	0	0	1	0	0	1	0.28	33
Biodiesel	1	0	0	0	0	0	1	0.28	34
Mangrove plants cultivation	0	0	0	0	1	0	1	0.28	35
Makhna cultivation	0	0	0	0	1	0	1	0.28	36
Sola pith plant cultivation	0	0	0	0	1	0	1	0.28	37
Crop seminar	1	0	0	0	0	0	1	0.28	38
Women in agriculture	0	0	0	0	1	0	1	0.28	39
Agriculture by product	0	0	0	0	1	0	1	0.28	40
Forestry	0	0	0	0	1	0	1	0.28	41
Apiary	0	0	1	0	0	0	1	0.28	42
Sericulture	0	0	1	0	0	0	1	0.28	43
Success stories in agriculture	0	0	1	0	0	0	1	0.28	44
Yearwise total programmes	21	44	71	89	83	46	354	-	-

**Boro* : This paddy variety is sown in January, grown during the summer months and harvested in June
***Aman* : A term used in Bangladesh and East India for low land rice grown in the wet season during June to November
****Aush* : Rice variety grown in autumn season

Table 3. Content analysis of live-phone-in animal husbandry based TV programmes of *Krishidarshan*

Topic	Number of programmes							%	Ranks
	2007	2008	2009	2010	2011	2012	Total		
Poultry birds farming	0	1	5	1	0	1	8	26.67	1
Diseases and health management	0	1	3	3	0	0	7	23.33	2
Goat rearing	1	1	1	1	2	0	6	20.00	3
Cattle farming	2	0	2	0	1	0	5	16.67	4
General programmes of AH	1	0	1	0	0	0	2	6.67	5
Employment oriented	1	0	0	0	0	0	1	3.33	6
Extension oriented	1	0	0	0	0	0	1	3.33	7
Yearwise total	6	3	12	5	3	1	30	-	-

Table 4. Content analysis of live-phone-in fisheries based TV programmes of *Krishidarshan*

Topic	Number of programmes							%	Ranks
	2007	2008	2009	2010	2011	2012	Total		
Fish health management/ pond management	3	0	3	0	3	1	10	43.48	1
General fisheries based topics/ Aquaculture	1	0	1	1	2	0	5	21.74	2
Programme on integrated fish farming	0	0	0	2	0	0	2	8.7	3
Fisheries extension	0	0	0	1	0	0	1	4.35	4
Endangered species conservation	0	0	0	1	0	0	1	4.35	5
Prawn culture	0	0	0	1	0	0	1	4.35	6
Pisiculture through SHG	1	0	0	0	0	0	1	4.35	7
Women in fisheries	0	0	0	0	1	0	1	4.35	8
Breeding, seed production and hatchery technology	0	1	0	0	0	0	1	4.35	9
Yearwise total	5	1	4	6	6	1	23	-	-

Table 5. Experts' participation in the live-phone-in TV programmes of *Krishidarshan*

Organizations	Frequencies and percentage					
	Agriculture	%	Animal husbandry	%	Fisheries	%
Departments of State and Central Government	377	58.63	23	39.66	6	13.64
SAU	131	20.37	33	56.90	36	81.82
KVK	3	0.47	0	0.00	0	0.00
Research institutes	34	5.29	0	0.00	2	4.55
Progressive farmers	1	0.16	0	0.00	0	0.00
Other organizations and cooperatives	97	15.09	2	3.45	0	0.00
Total	643	-	58	-	44	-

From Table 3, it is clear that among the AH programmes topics related to poultry and duck farming ranked first with 26.7% followed by disease and health management of animals and goat rearing. Only one programme was extension and employment oriented.

In the case of fisheries based live-phone-in programmes, majority of topics were related to fish health management and pond management (43.8%) followed by general fisheries and aquaculture based topics (21.74%) and integrated fish farming (8.7%) (Table 4). It was reported that majority of queries were related to diseases faced in culture systems and its remedial measures. With reference to programmes on women in fisheries, only one programme was telecast.

The telecast register maintained by DDK-Kolkata revealed that the experts called to answer queries posed by callers were from different State Agricultural Universities (SAU) namely Bidhan Chandra Krishi Vishyavidyalya (B.C.K.V.) and West Bengal University of Animal and Fishery Sciences (W.B.U.A.F.S.), Directorate/Department of Agriculture/ Horticulture/Animal Husbandry and Fisheries of State and Central Government, different research institutes under Indian Council of Agricultural Research (ICAR), Krishi Vigyan Kendras (KVK) and Cooperative societies. Progressive and successful farmers also participated as experts in these programmes (Table 5).

It can be seen from Table 6 that only 2 persons from ICAR institutes have participated as experts in the fisheries based programmes even though there is one national level fisheries institute, Central Inland Fisheries Research Institute (CIFRI) at Barrackpore, one regional centre of Central Institute of Fisheries Education (CIFE) at Kolkata and one research centre of Central Institute of Brackish Water Aquaculture (CIBA) at Kakdwip.

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