

Difficulties And Advantages In Implementing Environmental Criteria In New Rural Construction Of Some Ethnic Minority Communities In The Central Highlands - Vietnam: Case Study In Phu Can Commune, Krong Pa District - Gia Lai Province

Nguyen Vinh Quy , Nguyen Pham Quang Khanh

Nong Lam University – HCMC – Viet nam

People's Committee of Iamrah Commune

ABSTRACT: The implementation of rural construction program in Krong Pa district - Gia Lai province of Viet Nam in recent years has made significant progress, it has been creating a positive change of the face of mountainous rural areas, gradually improving material and spiritual life of the local people. However, many communes of the district have been facing difficulties and challenges, and one the difficulties and challenges is the implementation of environmental criteria symbolized as number 17 in the set of criteria for new rural areas. In order to have a general assessment of the current state of rural environment and the difficulties of the communes in the district, there need to have a research on status of environment as well as difficulties regarding construction of new rural of mountainous communes which are facing, there need to have a scientific and detail research addressing this issues. Therefore, the the research named “Difficulties and advantages in implementing environmental criteria in new rural construction of some ethnic minority communities in the Central Highlands - Vietnam: Case study in Phu Can commune, Krong Pa district - Gia Lai province” has been initiated to implement. The research results showed that the commune has faced many difficulties in implementation of environmental criteria such as: cultural traditions, customs and practices of cattle and poultry grazing; poor awareness of people in rural environment protection; and low income. The results of the research have also pointed out that the commune could overcome the difficulties and successfully implement the new rural program if the solutions including: social – economic, legislative – policy, management administration and propaganda – education would be applied with the help of political systems of all levels in the district..

KEYWORD: Difficulties, *Environmental criteria, new rural, construction, Jrai people, Phu Can commune,*

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I. INTRODUCTION

According to the guidelines of the Communist Party of Vietnam on agriculture, farmers and rural areas, as defined in Resolution No.26 ND/TW dated 5 August 2008 of the 7th Conference of the Party Central Committee of Viet Nam, New rural construction is an important goal in the policy. Following the Party's guidelines, movement of the new rural construction has been lively in Gia Lai province which is one of the provinces in the Central Highlands of Viet Nam, and Krong Pa district of Gia Lai province is one of the districts that early and effectively implemented the new rural program. However, there have still been many difficulties and challenges that affect the progress of achieving the target of the new rural construction program in accordance with the plan of the district. And, in the set of new rural criteria, the environmental criteria are most difficult criteria to be achieved.

Pursuant to Decision of Krong Pa District People's Committee on the establishment of the Steering Committee for the National Target Program on new rural construction, the Phu Can commune of Krong Pa district has been chosen as pilot modern regarding this program. However, over a period of time implementing the new rural construction, the commune has achieved very modest results, especially environmental criteria. Therefore, the research “Difficulties and advantages in implementing environmental criteria in new rural construction of some ethnic minority communities in the Central Highlands - Vietnam: Case study in Phu Can commune, Krong Pa district - Gia Lai province” is implemented in order to provide the Krong Pa district's policymakers with reliable, scientific data and informations which would be used in developing strategies of the district.

II. LITERATURE REVIEW

2.1 Overview of Jrai Ethnic Minority Community in Gia Lai province

The Jrai people are a people residing in the Central Highlands of Vietnam, mostly in Gia Lai – Vietnam with 90% of their population, they are a people among 54 ethnic groups in Vietnam. According to statistics in 2009, the population of this ethnic group is about 411,275 people (Thanh Trung & Trung Dung 2018). The Jrai people live mainly on cultivation of upland fields; Rice is the main food crop. The Jrai cultivation tools are simple, mainly knife, hoe, stick and poke. Livestocks of the Jrai people mainly are buffaloes, cows, pigs, dogs and chickens. Men are proficient in knitting baskets, baskets, women who are good at weaving dresses, blankets and fabrics for families. Hunting, gathering and fishing are other secondary economic activities that have significant implications for their past and present life.

The Jrai people live in villages which are traditionally called ‘plei’, ‘ploi’ or ‘buon’. In the village, the boss of village and his the elders have great prestige and play the role of running all collective activities, everyone listens and follows. Depending on each group of Jrai people, each village has different communal houses regarding the house high. The Jrai people follow matriarchal tradition, women are free to choose lovers and take the initiative in marriage. After the wedding, the boy returned to his wife's house, not inheriting the property. On the contrary, the daughter took turns to separate from her parents and left to live separately, a part of her property was divided, children of Jrai family follow mother's surname. In society, men play a more important role, but women have an advantage in the



Source: Thanh Ngoc & Trung Dung (2018)

home. The Jrai people has the continuation of marriage, if the wife dies, her unmarried sister has to live with the husband of the deceased. The houses of the Jrai families all share the same characteristics as stilt houses and follow the tradition of opening the main door looking north. The Jrai people's habits and practices regarding to breeding are free and locked under stilt houses.

2.2 Overview of Vietnam's new rural construction program and environmental criteria

2.2.1 Generalisation of the new rural construction program

Vietnam with the starting point is a country having an agriculture-based economy in which most of the population is farmers and production is mainly agricultural, social – economic relations are mainly based on bloodline as well as family lineage, and encapsulated in villages of bamboo with ‘banyan trees and wells of water’. So, Vietnamese people's life has confronted many difficulties, especially people in the rural areas. In order to improve the lives of people in rural areas, the Communist Party of Vietnam and the Vietnamese government have undertaking and policy regarding to new rural development that have been shown through the Resolution No.26 Res/Cen. Party, dated 5 August 2008 of the 7th Conference of the Party Central Committee of Viet Nam and the Decision No. 491/Dec. PM of the Prime Minister of Viet Nam. According to the Resolution No.26, the new rural development must meet the such requirements as: there are innovations in organization, operation and environmental landscape; achieving the highest efficiency in all economic, political, cultural and social aspects; more advanced than the old model; contains common characteristics, which can be popularized and applied across the country. In order to have basics for new rural development, the Decision No. 491/Dec. PM, dated April 16, 2009, promulgating set of the National Criteria for new rural areas, the set includes 19 criteria, generalized into 5 groups of content: (1) planning; (2) socio-economic infrastructure; (3) economic and production organization; (4) culture - society - environment; (5) political system.

2.2.2 Overview of environmental criteria in Vietnam's new rural construction program

Environment is the 17th criterion in 19 criteria for new rural construction and it has given out with the goal of protecting the ecological environment in rural areas, helping people improve the quality of life.

However, the environment is also one of the criteria facing many difficulties in the implementation process regarding new rural construction.

October 17, 2016, the Prime Minister of Viet nam issued Decision No. 1980/Dec.- PM on promulgating the National Criteria for New Rural Communes for the period of 2016-2020, these criteria are to adjust the set of criteria issued according to Decision No. 491/Dec.- PM dated April 16, 2009 of the Prime Minister. The set of criteria for new rural communes has been issued with many adjustments compared to the set of criteria applied in the previous period including criteria applied to the Mekong Delta, in which environmental criteria have increased (from 5 to 8 indicators) with many new contents, as follows:

Table 2.1: Environmental criteria in the set of national criteria for new rural construction

No.	Name of criteria	Content of the criteria	General criteria	Applied to the Central highlands
17	Environment and food safety	17.1. Percentage of households using clean and hygienic clean water as prescribed	≥78%	≥73%
		17.2. Proportion of production - business, aquaculture and trade village establishments ensuring regulations on environmental protection.	100%	100%
		17.3. Building green landscapes - clean - beautiful and safe	Met the criterion	Met the criterion
		17.4. Burial in accordance with regulations and planning	Met the criterion	Met the criterion
		17.5. Solid waste in the area and waste water from concentrated residential areas and production - business establishments are collected and treated according to regulations.	Met the criterion	Met the criterion
		17.6. Percentage of households with hygienic latrines, bathrooms, water tanks ensuring 3 clean ones	≥85%	≥70%
		17.7. Percentage of livestock households having breeding facilities to ensure environmental hygiene	≥70%	≥60%
		17.8. Proportion of households and food production-business establishments comply with regulations on food safety assurance.	100%	100%

Source: *National Criteria for New Rural Communes for the period up to 2020, (2016)*

III. RESEARCH CONTENTS AND METHODS

3.1 Aims and research contents

The purposes of the research are: evaluating the current state of environment, based on the 17th criterion stipulated in the set of national criteria regarding new rural construction in Viet nam, in Phu Can commune, Krong Pa district; assessing the difficulties in the implementation of environmental criteria in the ethnic minority communities in the studied area; and thenceforward proposing solutions overcoming the difficulties in implementation of the contents of the 17th criterion in the studied area.

To achieve the objectives of the research, the following contents have been implemented:

- Studying and assessing current state of implementing the environmental criteria in the studied area: the local current situation of clean water use and protection; the status of social – economic development activities in the area; activities causing environmental degradation and the activities to develop green - clean - beautiful environment; the reality of the animal husbandry in the studied area; and status of activities collecting and treating waste.
- Analysing and evaluating advantages, disadvantages including the cultural characteristics of ethnic minorities of Vietnam, opportunities and challenges in the process of implementing environmental criteria in the area.
- Proposing solutions to overcome the difficulties regarding the implementation of the environmental criteria in the communes. The solutions proposed relate to: management policy; communication/propaganda – education; support mechanism including economy; and technical methods to protect the environment.

3.2 Research methods

3.2.1. Process and tasks taken during the research implementation

To achieve the aims as well as contents mentioned above, there have various research methods been taken. The research implementation process included such steps as: studying documents domestically and internationally published and secondary data collection; taking field works in order to have raw data; analysing and assessing data and informations collected; and proposing solutions to overcome the difficulties regarding the implementation of the environmental criteria in the communes. The process and tasks implemented in the research are illustrated in figure 2.1 below.

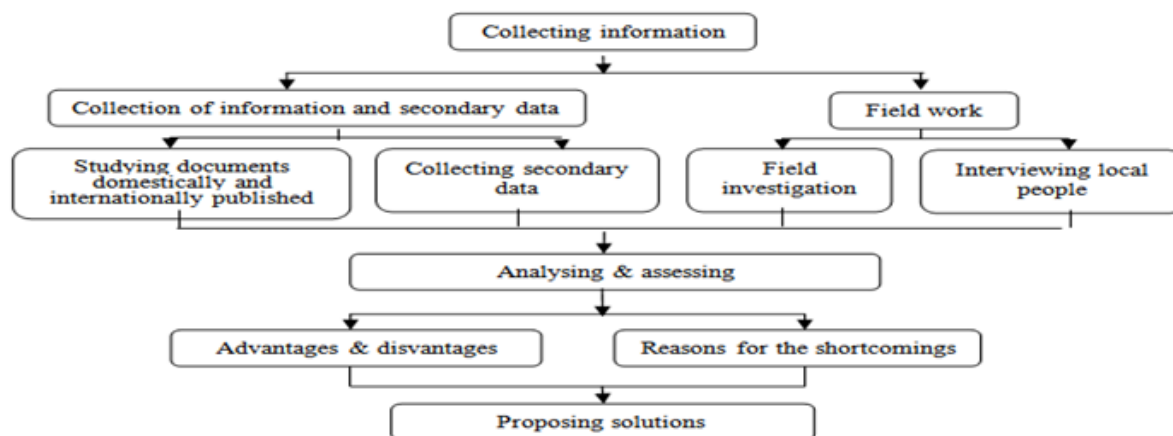


Figure 2.1: The process and tasks taken in the research

3.2.2. Research methods

In order to implement the research contents which have been given out, many methods have been used. The used methods in the research implementation include: collecting secondary information through studying existing documents related to the research topic; collecting raw data through field investigation and interviewing local people (households)/stakeholders, the interview has been performed by face – to – face dialogue or filling the prepared questionnaires. As total households in the Phu Can commune is larger than 200 household, so the number of the households, which have selected to conduct survey, have been calculated by the the formula of Yamane (1973), as follows: $n = N * (1 + Ne^2)^{-1}$. With level of error selected is 10%, so the number of households selected for the survey were about 80. The Delphi method has also been used in the evaluation and as a basic for proposing measures to accelerate the implementation of environmental criteria related to the new rural construction in studied communes.

IV. RESULTS AND DISCUSSION

4.1. Natural and socio-economic conditions of Phu Can commune, Krong Pa district

Phu Can commune is located in the south of Krong Pa district, consisting of 8 villages and hamlets. The terrain of the commune is relatively low, generally flat and favorable for the development of agricultural production and animal husbandry. Phu Can commune has the general climate characteristics of the sub-region of the Ba river valley and is the region with the lowest elevation compared to the whole of Gia Lai province. The climate has both characteristics of the Central Highlands in general, and is influenced by the central Central climate. The climate features have a relatively clear seasonal division: the rainy season from July to November and the dry season from December to June next year, in dry season the climate is dry and hot. Rainfall of the local is low, with average about 1,200 - 1,300 mm annually and mainly is in August, September and October. The humidity in the Phu Can commune is about under 80% on average, the average temperature is quite high with annual average 25.5⁰C and the average evaporation is 1,700 mm. The Phu Can is influenced by two main wind directions: from May to September mainly the Southwest - wind and from October to April the following year is East and Northeast winds.

The population of Phu Can commune is about 5,777 people with a total of 1,382 households, the majority of population in Phu Can commune are ethnic minorities (Jrai) accounting for 66%, the rest are Kinh people, the average population growth rate is 2% per year. The labor force of the commune is about 3,100 people accounting for 53.86% of the population, of which: 1,964 are men and 1,136 are female workers. The labor force of the commune is mainly in agriculture field with about 2,480 people accounting for 83% of the total labor force of the commune. In recent years, with appropriate guidelines which brought some new plants and animals into production, Phu Can's agricultural production has grown relatively fast in both area and output

values. Regarding cultivation, the district has 2,055.22 hectares of agricultural production land, mainly growing food crops: food crops, short-term industrial crops, root crops, cashew trees and some other agricultural crops. ... The situation of breeding in the commune is mainly on small-scale household husbandry with mainly pig raising for food supply, buffaloes and cows breeding, which provides traction for agricultural production.

Phu Can commune has a road traffic system including: national highway about 25 km; inter-commune road about 4 km; the total of 27 km long rural roads; and intênal roads in commune about 12 km.

4.2. Current status of implementing the environmental criteria in Phu Can commune

4.2.1. Status of water use by the local people in the region

In order to having data and information regarding the stutus of water use by the local people, the research has implemeted investigation in combination with interviewing objects of relation. The results gained from the research implementation showed that people in the region have got water for living from such sources as: rainy water, public water supply system, dug wells/borehole and surface water (creek, river, pond,..). The ratio of water sources and clean – hygienic as well as untreated water used for daily life of people in the studied area are presented in figure 4.1 and 4.2.

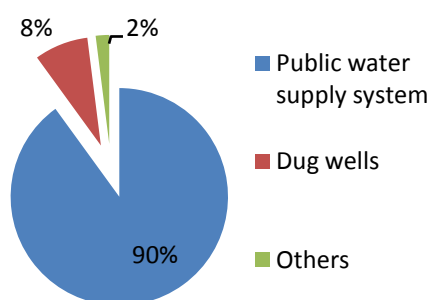


Figure 4.1: The ratio of water sources using in the region

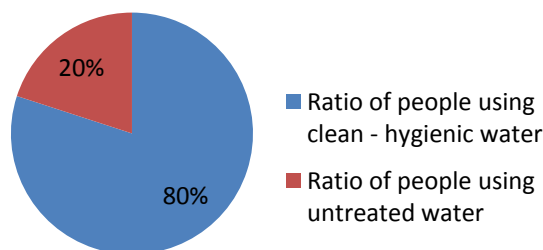


Figure 4.2: Ratio of people using water in the studied area

From the data presented in the figure 4.1 and 4.2 above, it can be seen that in the studied area, up to 90% of the water sources is pulic supply system with about 80% of population in the area use clean-hygienic water. About 20% of the local people use untreated water which have been got from dug wells and creek as well as rivers in the region.

In the purpose of assessing quality of untreated water used by the local people, some water samples of the Ba river which is main source of untreated water used has been taken for analyse, the water samples were taken by random simple sampling method. Parameters of the samples analysed are TDS, pH, Permanganate index, Hardness as CaCO₃, Clorua, Amoni, Nitrit and Nitrat. The analysed results of the samples are presented in table 4.1 below

Table 4.1: Quality of water got from Ba river in the studied area

No	Parameters	Unit		Reg. 01:2009/MOH
1	pH	-	7.43	6,5 – 8,5
2	Permanganate index	mg/l	1.6	2
3	TDS	mg/l	100	1000
4	Hardness (as CaCO ₃)	mg/l	16	300
5	Clorua	mg/l	0.4	250
6	Amoni	mg/l	3	3
7	Nitrit (NO ₂ ⁻)	mg/l	0.045	3
8	Nitrat (NO ₃ ⁻)	mg/l	0.52	50

It can be seen from the table 4.1 that quality of the water is quite good and all of parameters analysed are in the limits compared with the regulations of Mistry of Health of Viet nam.

4.2.2. Status of implemting environmental criteria in production and business establishments of Phu Can commune.

The research data and information have shown that there are 16 households and production and business establishments in the commune. Among those 16 production facilities of the region, there is only 6.25% of the establishments having environmental treatment facilities, the remaining 93.75% have no environmental treatment facilities yet. Regarding the implementation of environmental records and procedures, the percentage of establishments that have environmental records and procedures approved by competent authorities, up to 100%. The results have also shown that the awareness of organizations and individuals on environmental protection in production and business activities is quite high.

4.2.3. Criterion of building landscape and green - clean - beautiful – safe environment

Non-activities affecting the environment are one of the requirements in the 17th criterion stipulated in the set of national criteria regarding new rural construction in Viet nam. Nevertheless, the results gained from the research implementation showed that many activities of the local people are not friendly or even harmful to the environment. The activities which are harmful to the environment in commune studied include: breeding are free and locked under stilt houses; discharging domestic wastewater and solid waste directly into gardens, rivers, ditches and roads, even the Jrai people may throw waste directy under their stilt house. Detail of ratio of households and activities reducing quality of the environment in Phu Can commune is shown in figure 4.3 below

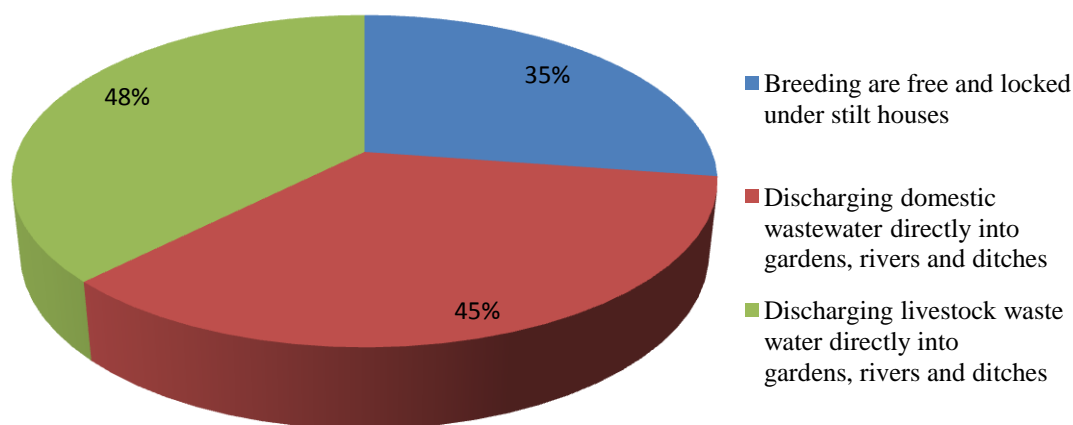


Figure 4.3: Ratio of households having activities harmful to the environment

It can be seen from the data presented in the figure 4.3 that the ratio of households having activities harmful to the environment is quite high, especially the activities rated to discharging waste.

Research results have also shown that the commune's transport system is invested and built quite well and meeting the requirements in environmental criteria. Details of the status of transportation system in Phu Can commune are presented in the table 4.2 below.

Table 4.2: Status of Phu Can transportation system compared to national standards

No	Criteria	National standards	Reality of the commune	Assessing
01	Commune roads and roads from commune centers to district roads are asphalted or concreted, ensuring convenient transportation throughout the year	100%	100%	Reached
02	Roads of hamlets and inter-hamlets - villages are at least hardened, ensuring convenient transportation of cars year-round.	≥ 70%	78%	Reached
03	Lanes in hamlets and villages are not muddy in the rainy season	100%	100%	Reached
04	The infield roads ensure convenient transportation of goods all year round	≥ 70%	70%	Reached

4.2.4. Criterion of cemeteries and graveyards

In the set of criteria for building a new rural commune, the new rural commune must have people's cemetery built under the planning, approved by competent authorities and regulations of managing the cemetery. The graveyard must have burial ground, sand burial ground, green tree planting area and convenient way to visit. Tombs must be placed in line and built to the right area and height. However, the results gained from the research showed that currently only 3 of 8 hamlets of the commune have people's cemeteries with total area of 1.8ha. All of the cemeteries of Phu Can are mainly located in residential area, near rivers or streams and have built mainly according to subjective will of the local people so the cemeteries failed to meet the environmental criteria in the regulations on new rural construction. .

4.2.5. Status of collecting and treating waste and wastewater compared with regulations

4.2.5.1. Volume and source of domestic waste generation

• According to the research results, solid waste in Phu Can commune is mainly domestic waste and waste from agricultural production. The daily amount of domestic waste discharged at Phu Can is about 4,077kg/day and from three such sources as: business – production establishments; agencies, offices, schools,...; and households. The ratio of domestic waste discharging from the sources into the environment in Phu Can commune is presented in the figure 4.4.

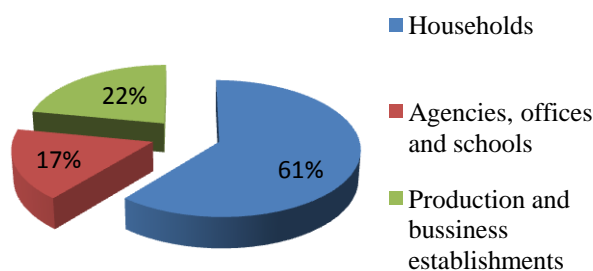


Figure 4.4: Source of domestic waste generation

• Based on the data and information getting from the research, the wastewater generated in the commune mainly are from the sources: domestic activities of the people; breeding; and agricultural production from.

4.2.5.2. Collecting and treating waste and wastewater in the region

From the data and information gained from the research implementation, it is recognized that methods of collecting and treating waste in the studied area are quite rudimentary and simple for both solid and liquid waste. Details of ratio as well as methods of collecting and treating waste in the region are illustrated in the tables 4.3 and 4.4 below.

Table 4.3: Kind and ratio of solid waste treated in the studied area

Kind of solid waste	Treated methods	Ratio (%)
Domestic solid wastes	Disposing to garden	65
	Disposing to ditches/roads	10
	Collecting and centralising in a place	20
	Burning and dumping	05
Solid waste from cultivation	Disposing to garden	85
	Disposing to ditches/roads	15
	Collecting and centralising in a place	-
	Burning and dumping	-
Solid waste from breeding	Disposing to garden	80
	Disposing to ditches/roads	20
	Collecting and centralising in a place	-
	Burning and dumping	-

Table 4.4: The ways and ratio of wastewater treated in the studied area

Kind of wastewater	Treated methods	Ratio (%)
Gray wastewater	Self-absorbent	75
	Directly discharging in to ditches and rivers	25
	Discharging into public drainage	10
Black wastewater	Self-absorbent	35
	Through septic tanks	-

	Directly discharging in to ditches and rivers	10
	Discharging into fihng ponds	55
Wastewater from breeding	Watering plants in household's gadens	80
	Directly discharging in to ditches and rivers	05
	Storage for reusing	-
	Discharging into public dranage and others	15

It can be seen from the data presented in the table 4.3 and 4.4 that the ratio of households disposinh or discharging waste into their gardens is largest; the ratio of households that burned or dumped solid waste as well as discharged wastewater directly intorivers or ditches is smallest with about 5%; and all methods of treating waste in the studied area do not meet the requirements of environmental protection as specified in 17th criterion of the new rural development program

4.3. People’s awareness on environmental protection in the research area

In the purpose of getting data and information related to knowledge and willingness of people in Phu Can commune as well as their assessment on environmental communication activities of the competent agencies, the research had taken surveying and interviewing the local people by direct interview and delivering questionnaires to fulfil. The results gained from the implementation are as presented in the table 4.5 below.

Table 4.5: Knowledge and willingness of people in Phu Can commune

No.	Information required	Ratio (%)
1. Concerned about environmental issues		
1.1.	Absolutedly not interested	45.3
1.2.	Sometime interested	22.5
1.3	Regularly interested	32.2
2. Sources of information gained		
2.1.	Books, radio and television	58.5
2.2.	Management officials and agencies	20.9
2.3	Community around	10.5
2.4	Local media	10.1
3. Assessment of local people on regularity of environmental communication		
3.1.	Not yet	50.6
3.2.	Sometimes	29.0
3.3.	Regularity	20.4

The results gained from the research process had also exposed that the ethnic minority people (Jrai) are less interested in environment but they very much believe in boss of villages, elders and management officials. Therefore, promoting the sense of responsibility of environmental management officials and advocacy for boss or elders of villages is one of the good approaches to raise awareness for ethnic minorities in Phu Can commune.

4.4. General assessment of difficulties and advantages in implementing environmental criteria of Phu Can commune.

The difficulties and advantages in implementing enviroonmental criteria in Phu can commune can be summarised in the table below.

Table 4.6: Difficulties and advantages of Phu Can in implementing environemntal criteria

Difficulties		Advantages	
01	The customs and habits of the local people also make environmental protection less effective.	01	People in the commune have a tradition of hard work and solidarity, so they are very convenient for joining hands, contributing to complete environmental criteria
02	The people's awareness of observing the environmental protection law is not high as expected.	02	Ethnic minorities in Phu Can commune respect and trust the village patriarchs and managers in general, and environmental managers in particular
	Education level as well as awareness of	03	The political and social organizations in Krong Pa

03	ethnic minority groups in the region is limited		in general and in Phu Can commune in part are aware of the importance of environmental criteria.
04	Almost ethnic minority people in Phu Can are unskilled and having low income.	04	Security and politics in the region are stable; officials, party members and people always believe in the policy guidelines of the Party and State laws
05	Lack of funding for construction of environmental protection facilities such as landfill, wastewater treatment system.		
06	The regime of attracting resources from other economic sectors for the construction of new rural areas in general and 17 th criteria in particular has not attracted the enterprises to invest in the environmental field.		
07	Management capacity and professional qualifications of grassroots officials in the region do not satisfy the requirements to the social – economic development in general and in environmental protection in particular.		
08	Lack of consistency in environmental management as well as environmental communication activities in the area is poor in content and less in quantity.		

4.5. Solutions proposed to overcoming the difficulties in implementation of the environmental criteria in Phu Can commune - Krong Pa district – Gia Lai province

Based on the status of implementation of the environmental criteria and in the purpose of helping the commune to overcome the difficulties in implementation of the environmental criteria, the following solutions including fields such as social – economic, legislative –policy, management administration and propaganda – education have been initiated to apply:.

- **Solutions of water and water use:** Implementing propaganda for each organization - individual about the importance of clean water and the benefits of using clean water, with specific solutions to overcome the pollution; Supporting poor households to build filter tanks and helping them in buying water filters; Proposing the higher authorities to support the construction of a headwater filter tank for households according to existing standards, and upgrading the local water supply station; Building a new water supply system throughout the commune and public water supply system is responsible for delivering clean water to every households in the commune.
- **Solutions of production and business establishments:** Establishing a team to supervise the implementation of environmental protection regulations of production and business establishments in the area, regularly check and punish for violating environmental protection, the members of the monitoring team must be: people who manage the commune's environment; representatives from villages, village mass organizations , union and party and so on; Propagating farm owners about the meaning of application of environmental protection measures in livestock, encourage the farm owners to participate in training courses on methods of waste management; Requesting pig farms to focus on environmental protection, strictly implementing environmental protection regulations; Removing if it is possible or requiring chicken farms located in a residential area operating the livestock without affecting the odor to the surrounding community; and Application of wastewater treatment model after biogas system and forcing all farms building a wastewater collection and treatment system and treat the manure as well.
- **Solution of waste collection and treatment:** Fully arranging garbage bins in all public places of the commune; In each hamlet of the commune establishing a team to collect solid waste in residential areas and the collection should be implemented atleast one time per every two day; For households with unfocused distribution, establishing a waste collection group responsible for collecting and transporting collected wastes to garbage dumps of the hamlet; Raising awareness of people on not throwing garbage indiscriminately down to long roads, rivers and streams by propaganda program; and Accelerating construction and completion of solid waste treatment/dumping facilities in the commune.
- **Solutions for drainage:** Encouraging households to build septic tanks in accordance with technical standards; Using common drainage system in concentrated residential areas for collecting domestic wastewater from households and public works (after being treated locally by septic tanks); Encouraging

households who have intensive breeding treating manure and wastewater by biogas systems in order to ensure sanitation for the residents; and In the center area of the commune, constructing a common waste water drainage system connecting with lake or pond to monitor the local treatment (if it is necessary) before discharging into the environment.

- **Solutions for environmental sanitation:** Educating local people about the negative impacts of livestock and poultry on ground floor of silt houses and propagandising as well as mobilising the households to move breeding facilities away from their houses; Implement the "5 not and 3 clean" program in the hamlets; Promoting propaganda, education and environmental awareness for the local people, especially ethnic minority people; Improving the capacity of environmental service units, in line with the requirements of tasks and the volume of environmental protection; and Supporting and promoting socialization of environmental protection activities, development of environmental services.
- **Solutions of cemeteries:** Informing people of the parameters to build cemeteries according to planning; The cemetery area must be surrounded by fences and there need to have access roads, drainage ditches, especially area of trees and grass need to be larger; Establishing a group in order to propagandise people that some bureaucracy and burial practices of people currently do not guarantee environmental sanitation and explaining the local people how to properly bury deceased ensuring health of the community; and Developing cremation standards and establishing a monitoring team including representative from the local community.
- **Solutions of infrastructure capital:** The Krong Pa district district needs to invest in developing commune and intra-field traffic systems, solidifying water supply and drainage canals to create favorable conditions for developing agricultural production; The district government needs to develop policies mobilising a variety of capital sources from the central to local levels and the people contributes; Developing policies and mechanisms to encourage enterprises to invest in environmental protection; Strengthening the leadership, direction and administration of professional staffs in monitoring and controlling the production and business establishments, animal husbandry establishments in relation to environmental pollution and protection; Human resource training and development are carried out at all levels and with all officials and employees in the field of new rural construction, rural water supply and sanitation; and The training program should focus on practical teaching rather than theory to create jobs and develop career for people.

V. CONCLUSION

From the results obtained in the process of implementing the research "*Difficulties and advantages in implementing environmental criteria in new rural construction of some ethnic minority communities in the Central Highlands - Vietnam: Case study in Phu Can Commune, Krong Pa district - Gia Lai province*", some conclusions can be drawn as follows:

- Movement of the new rural construction has been lively in Phu Can commune - Krong Pa – Gia lai province. As a result, the face of the rural in Phu Can commune has been innovative, the movement has created a strong change in people's awareness. However, Phu Can commune and its people have confronted many difficulties regarding implementation of environmental criteria which have been stipulated in the new rural developing program of Viet Nam, and overcoming these difficulties is not easy.
- The difficulties including both subjective and objective which have been faced by Phu Can commune relate to: custom/conventionality, habit practices; education and awareness level; capital and source of capital; and human resources as well as capacity of local environmental management agencies.
- The implementation of environmental criteria related to the new rural construction in Phu can commune could only be performed if the intergated solution: social – economic, legislative – policy, management administration and propaganda – education, would be applied with the help of political systems of all levels in the province.

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