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PRELIMINARY DATA ON INFORMATION SOURCE FOR THE FARMERS - THE CASE OF ALBANIA

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Abstract

This is an exploratory survey, aiming at assessing farmers' sources from which they receive information, and analyzing the extension methods that are most valuable to them. A questionnaire-based survey was conducted to assess the farmers' knowledge on agriculture practices, as well as their information knowledge competencies. A total of 40 farmers were interviewed, and the method of data analysis used is the descriptive statistics. The main source of information and advice for agro-input (seed, fertilizers and pesticides) are the agro-input dealers and village input shops. 75% of farmers get the market price information from each other. Most of the farmers (65%) think extension activities are not in line with their requirements. Out of 10 sources of information analyzed, the main source of information and knowledge for farmers are themselves. About the competence knowledge 2/3 of farmers think they have good or very good level of knowledge. 92.5% of the farmers are willing to participate in the trainings. The public advisory service should plan well other activities to provide more up-to-date technical information, as the knowledge of most farmers is now outdated.

Key words: *extension methods, farmers' competencies, information source, survey.*

INTRODUCTION

One of the main sectors of the Albanian economy, accounting for about 40% of total employment (INSTAT, 2017), and one of the main sources of income for rural households, which has generated, in recent years, 20-23% of GDP (World Bank, 2017; World Factbook, 2017), is agriculture. This sector is also important in terms of alleviating poverty (where the majority of the poor are in rural areas) and improving the standard of living.

In addition to the problem of competitiveness, agriculture faces several challenges, which we think are: (i) small farm size (1.2 ha) and fragmentation of land (about 4 plots per farm)[1]; (ii) malfunctioning of associations, cooperatives or product groups; (iii) poor marketing of products; (iv) improper irrigation and drainage systems; (v) low interest in investment in agricultural activities; (vi) low quality of agricultural inputs; (vii) lack of agricultural credit; (viii)inefficient farm management practices. Some of these weaknesses have continued to be the same over the last 20 years, such as the low technology level of farmers, or the public and private Extension Service not at the level required by farmers.

According to Frashëri (1936) the beginning of the advisory service in Albania dates back to 1936[2]. After 1945, this service was covered by specialists in muncipalities and collection centers, and with the establishment of agricultural cooperatives and agricultural state farms were the agronomist and the livestock experts of those entities who were in charge to train the workers for the daily work and new technologies.

The Advisory Service in Albania underwent major changes after 1991 when agriculture began its privatization and land was distributed to families working in centralized agriculture state farms and cooperatives. The advisory

[1] The land reform implemented after August 1991, in which the state agricultural land was equally distributed to the rural population, resulted in small and fragmented farms that hamper the growth and competitiveness of agriculture.

[2] The government then set up 5 pilot groups consisting of 5 specialists each (agronomist, zoo technician, veterinarian, forest engineer and economist) to assist Albanian farmers with agricultural advice.

service in Albania, as it stands today, started in 1992, and for the period 1994-2001 was supported by the EU and Dutch Government, with technical assistance in training the agriculture specialists with the concepts and principles of extension and communication. During this period private extension services have also emerged. Despite of improvements in some private and public services, most services are poorly provided or non-existent. Skreli et al. (2014), emphasis that the impact of government/public extension service on farm performance is limited, and the coverage of public extension services is limited, while the private advisory services are the main source of advice for most progressive medium and large farms.

After 2001 the extension service went through several "reforms" and since march 2018 the structure is as it shown in Figure 1[3].

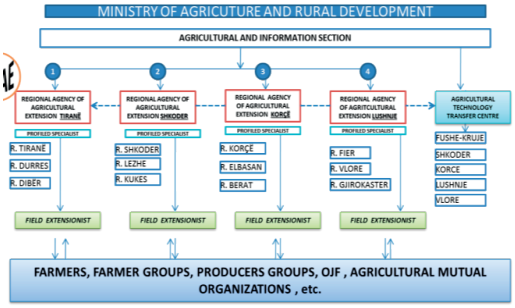

Figure 1. Farm Advisory Service in Albania

Based on the Rural and Agricultural Development Strategy (2014-2020)[4] and Extensive Service policy, the product that this service should provide is measured by the indicator "Percentage of farmers and agro-processing businesses that have been informed, against the total of farmers and agro-processing businesses"

The demand and supply sides of extension services are undergoing a substantial change, in Albania. According to the Rural Development Strategy of Albania (MAFCP, 2007), approximately 30 % of the farm holders have an agricultural education background. While the young generation of farmers has limited relevant experience and know-how. While on the supply side, a major issue is the shortage of young professionals, as the most qualified experts are more interested in other activities.

One of the key factors in the extension process is the education and through it the farmers receive technical knowledge and information, which helps farmers to make decisions about the future of the farm.

According to Ingenaes (2015), over the past century, extension education is developed as a discipline with its own philosophy, goals, methods and techniques that should be understood and used by most extension workers if they are to be effective in meeting the needs of all farmers, especially small farmers and women farmers.

It is also argued that co-production knowledge, for example, between farmers and advisers, is a new form of knowledge, combining scientific evidence and training, technical information, experience-based knowledge, information on household goals and interests, the unspoken knowledge of farmers, etc. This shows that agricultural advisory services are characterized by diversity and complexity. It is therefore argued that it is necessary to combine extension methods to increase knowledge transfer and improve learning in agriculture (Labarthe and Laurent, 2013).

However, to improve learning is required a level of farmers' competences. Competence is often considered as the sum of knowledge and skills, where knowledge is something theoretical or academic, while skills are about the ability to solve problems in practice. For the agricultural sector, with regard to competence, more emphasis should be placed on people's attitudes and motivations, both in gaining new knowledge and applying skills. Thus, an important part of extension and extension services is raising awareness of good practices and motivating farmers (Karbasioun, 2007)

[3] The Albania Government Decision no. 147, date 13.3.2018 "The establishment, organization and the functioning of Regional Agencies of Extension Service".

[4] Strategjia ndersektoriale per zhvillimin rural dhe bujqesor ne Shqiperi (2014-2020). Vendim i Këshillit të Ministrave nr. 709, datë 29.10.2014 Fletore Zyrtare, Viti: 2014 – Numri:169
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Except the public extension service, a source of information for farmers are the agro-input dealers. They are interested in maintaining good business relationships with farmers and on the other hand farmers are interested in information on the use of inputs. The trader that conducts extension activities is valued by farmers (Schwartz, 1994).

MATERIALS AND METHODS

The purpose of the survey was to identify sources from which the farmers receive information. It will also analyze the extension methods that are most valuable to them.

The realization of the survey has been made possible by the use of primary, secondary sources and literature data related to extensive service in the field of agriculture.

The survey was conducted on 40 farms of Vora, Maminas, Bërxullë and Preza administrative units of Vora municipality[5], which are known for their production of vegetables and olives.

For the purpose of this survey, a questionnaire is designed for interviewing farmers and collecting the data needed. The questionnaire consists of a series of questions. There are questions about the farmer's personal background, such as age, gender, and family. Other variables in the dataset relate to farm characteristics such as size, production types, and location; and socioeconomic aspects such as experience in agricultural production, education etc. Of particular interest to this paper is a set of questions related to education, knowledge, competence and use of advisory services.

To check the validity of the questionnaire it was subject of review by a panel of three agricultural experts. Their remarks/suggestions were reflected in the improved questionnaire. In addition, the questionnaire was pre-tested with a pilot group of three farmers; in the case of inconsistent questions, it was modified accordingly.

Interviews were conducted at the farm, in most cases with the head of household and in few cases with family members. The questionnaire contained open-ended and closed-ended questions.

According to Jackson (2009) open-ended questions allow for a greater variety of responses from participants, but are difficult to analyze statistically because data has to be coded or reduced in some way. While, closed-ended questions are easy to analyze statistically, but they seriously limit the answers that participants can provide. We have also used a Likert-type scale (1932) because it is very easy to analyze statistically and it is very used in agricultural research (Clason and Dormody, 1994).

In this survey, the sample consisted of a total of 40 agricultural production farms, which were randomly selected from the list of potential farmers prepared by advisory service of the Tirana Regional Agricultural Extension Agency (TRAEA). These areas where the farms were selected were selected because of the convenience and assistance provided by the advisory service.

Only 40 farmers were included in the survey, because in the moment of the interviews in some media was reported that for vegetables and fruits, farmers use pesticides and growth stimulants improperly. This resulted in many farmers refusing to visit their farm and being interviewed. The farmers interviewed did not create any problems for the interviewer, especially as they were clarified about the purpose of the interview and the study.

The survey was administered during April - June 2019, using direct interviews, by the authors of the paper.

The data obtained were entered in Microsoft Excel and transferred into SPSS. The analysis is based on descriptive statistics, namely frequencies.

RESULTS AND DISCUSSIONS

1. General data on observed farms

The purpose of this survey was to identify the impact of the public advisory service on farmers operating in some of the administrative units of Vora municipality, in Tirana.

As can be seen from the data in Table 1, all interviewed farmers have 31.6 years (10-62 years) working experience in agriculture; satisfactory educational level, with 65% of

[5] Vora municipality is 18 km far from Tirana- capital of Albania.

them having completed secondary education and university (Figure 2); but on the other hand the age of farm managers is quite high 60.9 years (35-83 years).

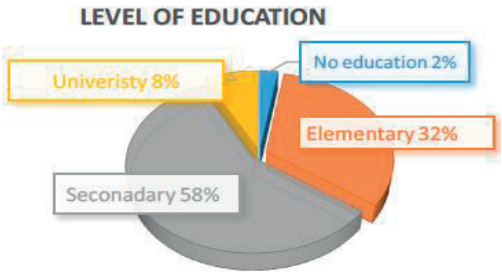

Figure 2. Farmers' education level

In 96.7% of the cases the head of the household decides how the farm will be run and the sale price of the products, and in 3.3% of the cases the decision is made as a family. The same result (94.5%) is reported by Androulidakis et al. (2002) in a study conducted in Albania.

Only 15% of the farmers have contracts with traders/collectors and 5% with processors.

As can be seen from Figure 3, the main activity for the interviewed farmers are the vegetables grown in greenhouse (35%), Olives orchards (17.5%) and open field vegetables (17.5%). This is a consequence of the proximity to the Tirana market in terms of vegetables and the hilly terrain itself planted with olives, most of them inherited from decades.

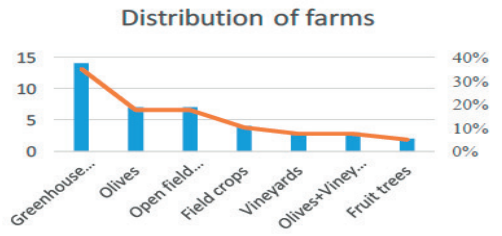

Figure 3. Distribution of farms

2. Agro-input purchase and products selling

Products are sold by farmers as follow: 35% sell by themselves their products; 20% only to wholesalers; 32.5% sell the products to traders and retailers; and 12.5% sell them to retailers. 62.5% of farmers have only one source of sales, the rest have 2-3 sources of sales.

81.8% of production is sold (P value = 0.083), 10.8% is consumed by the family, and 7.4% of production is damaged, which is statistically significant for P <0.05 (0.039) and the value of Pearson Chi Square is 13.298.

72.1% of farmers say that their business in the last three years has been at the same level; 15.2 report improvement; while 12.7% declaring business decline. As the P-value of the ANOVA table is more than 0.05 (0.814), there is no statistically significant business-level relationship in the last three years at 95.0% confidence level.

In terms of input purchasing, for seeds, fertilizers and pesticides there is a difference between farmers with slightly larger farms who are more aware of the consulting and training provided, so most of them buy them from agro-input sealers, whereas those who have very small farm are buying the inputs mainly in village shops (P = 0.003 to 0.038), which trade low quality inputs. Almost the same results are reported by Androulidakis et al. (2002), where 58% of seeds, 70% of fertilizers and 62% of pesticides the farmers bought at agro-input dealers (Figure 4). In addition, most of the farmers reported that level of input used was the same in the last three years (Table 2).

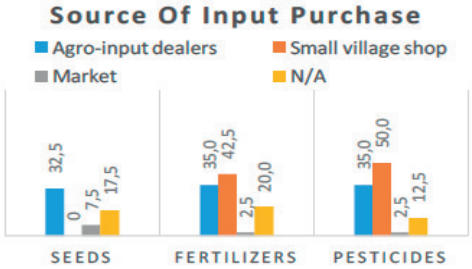

Figure 4. Source of input purchase by farmers

Most of the farmers pointed out that level of incomes and business in the last three years is the same (47.5-52.5%) or worse (5-17.5%) and only 35-42.5% report that is better.

Table 1. Main sample socio-demographic and farm indicators

No of farmers interviewed	Number of family member	Head of the Household						Farm area (ha)
		Age (years)	Working Experience (years)	Education level				
				No education	Elementary	Middle/high school	University	
40	4.7	60.9	31.6	1	13	23	3	0.81

No of farmers interviewed	Number of family member working in the farm	Rented workers	Farms with:						
			Olives	Vine yards	Greenhouse Vegetables	Open field vegetables	Fruit trees	Field crops	Olives+ Vineyards
40	2.13	1.18	7	3	14	7	2	4	3

Table 2. Use of agro-inputs in the last three years

No of farmers interviewed	Use of agro-inputs in the last three years (%)											
	Fertilizer				Manure				Pesticides			
	Same level	More	Less	N/A	Same level	More	Less	N/A	Same level	More	Less	N/A
40	62.5	2.5	12.5	22.5	65	12.5	0	22.5	62.5	15.5	10.0	12.5

Table 3. Distribution of answers regarding the source of information (%)

Information source	Seed varieties	Fertilizers and fertilization	Pesticides use	Irrigation
Public extension	20.0	5.0	10.0	7.5
Private extension	10.0	12.5		10.0
Agro-input dealers	30.0	20.0	25.0	
Village shops of inputs	25.0	40.0	45.0	
Other farmers	7.5	2.5		32.5
Other sources	7.5	20.0	20.0	50.0
Total	100	100	100	100

Information source	Farm management	Business plan preparation and business planning for the future	Prices and Market	Environment protection
Public extension	10.0			100
Private extension				
Agro-input dealers				
Village shops of inputs				
Other farmers		75.0		
Other sources	90.0	25.0	100	
Total	100	100	100	100

3. The relation farmer-advisory

The sources of information are different for each issue (Table 3). It is seen that the main source of information and advice for agro-input (seed, fertilizers and pesticides) are the agro-input dealers and village input shops.

Public extension should also focus on issues such as farm records keeping, pricing and market information. In addition, the public extension and Ministry of Agriculture and Rural Development should take more responsibility in providing the market price information because 75% of farmers get the information from each other. Private sector extension may be provided not only by companies wishing to sell to farmers, but also by those wishing to purchase from them. Extension advice may be provided both to increase product quality to the benefit of the purchasers and as a way of promoting contract farming with suppliers (Androulidakis et al., 2002).

Most of the farmer emphasis that they are satisfied mainly from agro-input dealers (Table 4).

Most of the farmers (65%) think extension activities are not in line with their requirements. In addition, 62.5% of the farmers evaluate the communication with the extension agent as good and very good, however the farmers that consider it not very good is considered high, and all the providers needs to think about it (Table 5).

From the 10 sources of information analysed, the main source of information and knowledge for farmers, the main source are themselves (Table 6). The public advisory service should therefore plan well for other trainings and activities to provide more detailed and up-to-date technical information and advice, as the knowledge of most farmers is now outdated, given the advanced age of the farmers.

The same can be said about the competence for the 10 sources analyzed where 2/3 of farmers think they have good or very good level of knowledge. However, seeing that 1/3 of farmers confirm that they do not know or know little about certain problems, the public advisory service needs to conduct training with farmers to increase their level of competence (Table 7).

The farmers' opinion is that the main methods most relevant to them are: (i) demonstrations, (ii) meetings with farmers, (iii) field days, and (iv) discussions with advisors, other farmers and dealers (Figure 5). The same is mentioned Lukkainen (2012), who states that farmers are keen to see how a new idea works and how it can affect their farm production and these can be done with a demonstration. Explaining why farmers say demonstrations are an effective method may be that they are able to see a particular technique or technology in practice. It also states that the farmer-to-farmer method is the most productive for farmers.

Asked if you used any of the new ones you learned from extension activities at your farm? Out of 40 farmers - 9 farmers responded that they applied drip irrigation, and 4 of them pruning. About 1/3 of farmers have applied what they have seen and learned in extension activities, which is a good indicator. Whereas for training courses very few farmers (7.5% of them) consider it as a valid method, while Lukkainen (2012) emphasizes training as a source of innovations implemented by farmers.

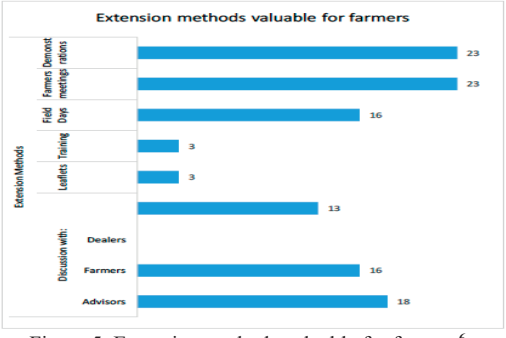

Figure 5. Extension methods valuable for farmers[6]

In terms of motivation to participate in demonstrations and trainings (Table 8), where farmers had to choose for each alternative one of the 5 Likert scale options (1 = not at all, 5 = strongly), we see the highest percentage of farmers, goes for the answer "To gain new knowledge" and "To get more services". While the answers to "To know other farmers" and "The Extensionist's Insistence" are not very well liked.

[6] The answers that are summarized in table 8 9, 10, 11, 12 and figure 5 the farmers checked more than one source.

The data in Table 9 give us a clear picture of how far trainings and demonstrations have met the needs of farmers. The answers of most of farmers is negative, and this probably means that trainings/demonstrations are not planned with a wide discussion with farmers and are not planned at the right time for them, that is, when low season of works in their farm.

When farmers are asked what needs to be improved in extension activities, 60% of farmers and say that more meetings with extension agents and trainings are needed.

To the question whether you will continue to participate in the trainings - 92.5% of the farmers answered yes (Table 10), which shows interest for training, and here it seems that the answers given to how competent the farmers are on issues related to farm activity (Table 8) are not very correct.

Farmers think that subsidies are the most important way to increase their farm production and income (Table 11).

When the farmers were asked to check their three main problems affecting competitiveness the answers were: low profit, high level of taxes and low level of subsidy support (Table 12).

CONCLUSIONS

The farmers interviewed long working experience in agriculture; satisfactory educational level, but on the other hand the age of farm managers is quite high.

In 96.7% of the cases the head of the household decides how the farm will be run and the sale price of the products. 62.5% of farmers have only one source of sales, the rest have 2-3 sources of sales.

72.1% of farmers say that their business in the last three years has been at the same level.

The large farms, who are more aware of the consulting and training provided, most of them buy the inputs from agro-input dealers, whereas those who have very small farm are buying the inputs mainly in village shops, which trade low quality input.

It is seen that the main source of information and advice for agro-input (seed, fertilizers and pesticides) are the agro-input dealers and village input shops; while 75% of farmers get the market price information from each other

Most of the farmers (65%) think extension activities are not in line with their requirements. From the 10 sources of information analysed, the main source of information and knowledge for farmers are themselves. The same answer is about the competence, for the 10 sources analysed, where 2/3 of farmers think they have good or very good level of knowledge.

The farmers opinion is that the main methods most relevant to them are: (i) demonstrations, (ii) meetings with farmers, (iii) field days, and (iv) discussions with advisors, other farmers and dealers (Figure 5).

About 1/3 of farmers have applied what they have seen and learned in extension activities, which is a good indicator. Whereas for training courses very few farmers (7.5% of them) consider it as a valid method. Most of farmers said that trainings/ demonstrations did not meet their needs, and this probably because trainings/demonstrations are not planned with a wide discussion with farmers and are not planned well.

The opinion of most farmers (60%) is that extension activities should be improved, and more meetings with extension agents and trainings are needed.

92.5% of the farmers have the willing to participate in trainings, and here it seems that the answers given to how competent the farmers are on issues related to farm activity are not very correct.

The public advisory service should therefore plan well for other trainings and activities to provide more detailed and up-to-date technical information and advice, as the knowledge of most farmers is now outdated, given the advanced age of the farmers. Seeing that 1/3 of farmers confirm that they do not know or know little about certain problems, the public advisory service needs to conduct training with farmers to increase their level of competence.

Table 4. Which source are you most satisfied with the advice received

Farmers	Public extension		Private extension		Agro-input dealers		No answer	
	No	%	No	%	No	%	No	%
40	11	27.5	5	12.5	18	45.0	6	15.0

Table 5. Farmers evaluation regarding the communication with advisor

Farmers	Very good		Good		Satisfactory		No good		N/A	
	No	%	No	%	No	%	No	%	No	%
40	8	20.0	17	42.5	6	15.0	4	10.0	5	12.5

Table 6. Sources of knowledge about farm work (%)

Information source	Crops knowledge	Fertilizer and fertilization	Pesticide use	Irrigation & drainage	Record keeping
Myself	55.0	57.5	47.5	57.5	75.0
Colleagues	17.5	15.0	17.5	17.5	0
Seminars/Trainings	15.0	17.5	20.0	17.5	25.0
School	12.5	10.0	15.0	7.5	0
Total	100	100	100	100	100

Information source	Farm management	Business plan & planning for the future	Prices and Marketing	Environment protection	Communication and cooperation skills
Myself	70.0	67.5	75.0	72.5	75.0
Colleagues	10.0	12.5	2.5	0	2.5
Seminars/Trainings	17.5	17.5	20.0	27.5	20.0
School	2.5	2.5	2.5	0	2.5
Total	100	100	100	100	100

Table 7. Knowledge competencies for farm work

Level of knowledge	Crops knowledge	Fertilizer and fertilization	Pesticide use	Irrigation & drainage	Record keeping
I do not know	17.5	12.5	12.5	15.0	15.0
Some	17.5	12.5	12.5	10.0	0
Good	27.5	37.5	32.5	17.5	10.0
Very good	37.5	37.5	42.5	57.5	75.0
Total	100	100	100	100	100

Level of knowledge	Farm management	Business plan & planning for the future	Prices and Marketing	Environment protection	Communication and cooperation skills
I do not know	12.5	15.0	17.5	12.5	22.5
Some	12.5	15.0	10.0	17.5	7.5
Good	30.0	22.5	32.5	20.0	12.5
Very good	45.0	47.5	40.0	50.0	57.5
Total	100	100	100	100	100

Table 8. Motivation to participate in demonstrations and trainings [7]

Farmers	To gain new knowledge		To get more services		Personal interest		The extensionist's insistence	
	No	%	No	%	No	%	No	%
40	29	80.5	22	66.7	16	48.5	11	33.3

Farmers	Get certificate		To know better the advisor agent		To know other farmers		Friend interest	
	No	%	No	%	No	%	No	%
40	13	43.3	11	31.4	7	21.2	2	16.7

Table 9. To what extent did the trainings/demonstrations meet your needs?

Farmers	How was the quality of the trainings/ demonstrations?		How do you assess the applicability of the issues addressed in trainings/ demonstrations?		How do you evaluate the place of trainings/ demonstrations?		Were the timing of the trainings/ demonstrations appropriate?	
	No	%	No	%	No	%	No	%
Positive answer	19	47.5	14	35.0	13	32.5	12	30

Table 10. Farmer needs for training

Farmers	Subsidies		Technology		To be known their needs		Farm management		No answer		Books	
	No	%	No	%	No	%	No	%	No	%	No	%
40	17	42.5	9	22.5	5	12.5	4	10.0	4	10.0	1	2.5

Table 11. Support required by farmers to increase their production

Farmers	Subsidies		Quality and better price of inputs		New Technology		No answer	
	No	%	No	%	No	%	No	%
40	29	72.5	2	5.0	2	5.0	7	17.5

Table 12. Problems that adversely affect competitiveness

Description	First problem		Second problem		Third problem	
	No	%	No	%	No	%
Low profit	25	62.5	3	7.5	3	7.5
Competition from import	8	20.0	10	25.0	2	5.0
High level of taxes	3	7.5	12	30.0	14	35.0
Lack of markets	1	2.5	0	0	5	12.5
Low level of subsidies	0	0	11	27.5	8	20.0
Others	3	7.5	4	10.0	8	20.0
Total	40	100	40	100	40	100

[7] Here are listed only those farmers who responded that there was strong motivation and the percentage is based on them for each answer.

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