DEVELOPMENT OF AGRICULTURE IN PERI–URBAN AREAS – CHALLENGES AND PERSPECTIVES

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Abstract: The changes during past decades have transformed entire peripheral areas and their demography, converting former rural areas into new urban centers with perspective in Albania. However, in the new peri–urban areas farmers faced a number of problems. Literature justifies some key factors influencing increase of the agricultural production. The study objective is the estimation of possible links between factors, such are: financial potential, and physical capital, and market access and social capital and state transfers for increase of agri–production in peri–urban area of Tirana (Kamza and Paskuqan) in Albania. The assessment shows that market access, social capital and state transfers have a positive effect on production, while other variables do not have significance. The results identify the decline of the importance of farming in peri–urban areas and factors complexity, as well as promotion of a new role for policy practitioners.
Keywords: Agri–production, financing, market access, social capital, peri–urban area, Albania.

INTRODUCTION

Rural regions have undergone important economic and social developments all over the last decades. Bessière (1998) argued that the transformation of rural society cannot be understood from a local perspective alone. The developments are influenced by internal trends as well as broad regional and global perspectives. So the tendency for expansion of industrial production and services and the ongoing demand for labor have influenced the growth of internal mobility and foreign factor migration, causing rapid and dramatic developments in rural and urban areas. Taylor (2001) considered the movement of labor out of agriculture as a universal concomitant of economic modernization and growth. However, the concentration of agricultural production on the one hand and the abandonment of agriculture on the other hand constitute the two extremes of a natural development process evidenced also in many countries. Baldock et al (1997) explained that the agricultural decline and abandonment has been widespread in many rural areas of Europe. These changes have transformed entire peripheral areas and their demography in Albania, converting former rural areas into new urban centers with perspective. Actually, this process has brought an evidence of tendencies and new developmental challenges especially in new peri–urban areas. Thus, despite the increasing demand trends for food in new urban centers, farmers' precise limitations are noted and often conditioned by influential factors beyond agriculture. Boserup (1965) argued that it is reasonably clear that the population explosion is a change in basic conditions which must be regarded as autonomous, in the sense that the explanation is to be sought; not just in improved conditions of food production, but in some other factors which any student of agricultural development would regard as independent variables.

Zasada (2011) argues that the peri–urban agriculture is widespread in Europe and that it has been an interest subject of research for the past decades. In fact the research on factors affecting agricultural production in peri–urban areas is of particular research interest to a city with a perspective, such is Tirana (Figure 1 and 2). Moreover, during last years it has been proven that developments in peri–urban areas can create conditions for growth of the agricultural production. Romic (2002) explained that intensive urbanization of Zagreb, capital of Croatia, has led to a creation of a very good agricultural conditions for vegetable production, which are entrapped within urban and peri–urban areas. The agricultural production in the peri–urban area of Tirana develops under a complex conditions and on the one side the market encourages naturally pragmatic farmer's tendency to gain more access to a metropolitan market, but on the other side there is an increase of the pressure to abandon farming due to competition and high salaries

offered in the service sector in the nearby metropolis. As a result the agricultural employment has decreased and over the time converted into a secondary employment.

Figure 1. Tirana ─ location in the map of Albania.

Source: Worldatlas.

In this context the problematic of agricultural production in the peri–urban area of Tirana (Figure 2) includes a spectrum of economic and social issues. A problem that remains is the financial potential in agriculture and the conditions under which it develops, including the interest rates offered by the market operators that are often considered as high and the structure of the farms of these regions (farms are mainly owned by families) and their size (relatively small). The agricultural financing has a strong effect on agriculture (Binswanger, 1989). The physical capital, although an important factor for increasing agricultural production and financing, is considered missing in the other study areas in Albania (Kolaj et al. 2017). Physical capital is important for growth of agricultural production. Tostlebe (1957) had linked growth of physical capital to the production and found the main determinants of investment in various types of agricultural capital. Increase of the physical capital and the farmers' wealth is in fact an expression of the overall degree of factors development beyond agriculture, in a broader economic and social sense. Schultz (1961) argues that physical capital and its growth might be the most distinctive feature of the economic system.

Figure 2. Tirana and studied peri–urban areas.

Source: Data processed by authors.

Indicators show the nature of the agricultural production in studied area, reinforcing the attitude that the farmers are mainly using the labor but not intensively. Meanwhile, low physical capital indicators testify to their financial capacity; implying access to technology and overall wealth, or the progress of property legislation. Deininger (2001) links transitional individualized property rights with characteristics of the agricultural production process and the ability to generate income. Market access for markets of substantial size, such is a metropolitan market of Tirana, is a driving force for the agricultural producers. Anderson (2014) emphasizes market access as an important factor for agriculture in a wide context for regional and global economic developments. For farmers in peri–urban area (Kamza and Paskuqan) near Tirana metropolitan market represent a permanent destination and some of their products are identified by consumers exclusively as typical products. However, the farmers' tendency for increasing market access is conditioned by process developed on both sides relatively rapidly. On the one hand it is conditioned by the constant tendency of market adjustments and used or missing policies and on the other hand by the need for increasing and strengthening of the role of farmers as main actors. Kaganzi (2009) argues that processes of market adjustments requires from farmers to take on new responsibilities and learn new skills. Farmers' participation in forms of cooperation or production associations in the area represents another problematic, although social capital is a complementary essential developmental factor of importance for prosperity and growth of farm production. Olson (1965) compares the importance of social capital in the form of a formalized organization with the functioning of competitive markets. Krishna (2002) refers to a number of agricultural production units studied and identified social capital as a fundamental factor of importance.

Considering the specific problematic and research interest for studies in this field, the study objective is the estimation of possible links between factors, such are: financial potential, physical capital, market access and social capital for increase of production in the peri–urban area of Tirana (and more specifically in Kamza and Paskuqan) and farm development in the central region of the country. Complementary to the above factors the paper will include a contemporary research question of interest such as the impact of state transfers for increasing farm production.

The literature supports influence of above factors for increase of the agricultural production. According to Adams et al. (1984) during the past decades many low income countries (LICs) have experienced rapid expansion in the volume of agricultural finance and most funds lent for agricultural purposes were provided by governments. Barry (2001) considered financing potential as a factor for extending development of agriculture. According to Diagne et al. (2000) most of researches on rural financing revolve around the perception that poor rural households in developing countries with increased access to finance have significant positive consequences on various aggregates and farmers–level outcomes, including agricultural productivity and overall welfare. Zellera et al. (1998) finds that financing in agriculture was successful for farmers who cultivated maize, contributing to their increase of planted surfaces and generally the agricultural production.

Laband et al (1983) underlines the physical capital and their importance for progress of the agricultural farm and inheritance from farmers to their sons. Garnett et al (2016) finds that in least developed countries and for low income producers improving yields and farmers' incomes are priorities which are frequently hampered by insufficient physical capital. Markusen (2008) links importance of the physical capital to the development and quality of human capital. De Janvry et al (1991) evidenced importance of market access underlining the pervasive imperfections of markets in the developing world. Dorward (2005) thought that linking market access to competitive market structure and producers groups and institutional change can take a broad 'anti–development' form (structuring transactions to create rents), or a 'pro–development' form (structuring transactions to reduce costs and thus promote trade and investment). According to Shiferaw (2011) linking of market access to the production at a critical farmer's financial point may not make sense. According to Markelova et al. (2009) despite failures in rural markets in developing countries the opportunity for farms development of smallholders depends on their ability to access market. According to Dasgupta et al. (2000), it is difficult to think of an academic notion that has entered the common vocabulary of social discourse more quickly than idea of social capital. Putnam (1995) thinks that as 'social capital' refers to features of social organization such as networks, norms, and social trust tools and training that enhances individual productivity. Narayan (1997) treated social capital and the magnitude of social capital's impact on household income by a participatory poverty assessment, demonstrating the ways that social capital affects agricultural incomes. Coleman (2000) defines that like other forms of capital the social capital is productive, making possible the achievement of certain ends that in its absence would not be possible.

HYPOTHESIS
The main hypothesis:
Increasing access of the economic and social factors, affects to the increase of production of farmers' in peri–urban areas of Tirana (Kamza, Paskuqan) in the central region of the Albania.
Other hypothesis:
H 1 — Increase of financials potential, affects increase of farmers' agricultural production in peri–urban areas;
H 2 — Increase of the physical capital, affects increase of farmers' agricultural production in peri–urban areas;
H 3 — Increase of the market access, affects increase of farmers' agricultural production in peri–urban areas.
H 4 — Increase of the social capital, affects increase of farmers' agricultural production in peri–urban areas.
At the level of an interested research question the role of state transfers is included:
Increasing the level of state transfers, affects increase of farmers' agricultural production in peri–urban areas

PROCEDURE AND METHODS
The paper is based on studies from other countries and prestigious institutions that treated issue of farms development and especially problem of agricultural production. In order to achieve the study objective a test of above variables and impacts to the agricultural production for farmers' in peri–urban area of Tirana in region of Kamza and Paskuqan was used and a quantitative measurement was applied. A questionnaire at level of 220 interviewed farmers' was designed and then was applied to the study area and was implemented by random choice.
For testing of variables under review the following codes are used. Dependent variable production was measured by 4 scales (0=strongly disagree; 1=disagree; 2=agree; 3=strongly agree;), and the independent variable financial potential is measured by 2 levels (0=decreased; 1=increased;) and variable physical capital was measured ordinaly by 4 scales (0=main decrease; 1=decrease; 2=increase; 3=main increase) and also other independent variable market access is measured (0=strongly disagree; 1=disagree; 2agree; 3=strongly agree). Variable social capital was measured by 1–3 (0=not active; 1=partially active; 2=active) and state transfers was measured at 2 levels (0=Not; 1=Yes). A linear method and a logit binary method are used to test the above variables. Following are presented the variables estimated by linear method (table 1.).
Table 1. Measured variables by linear methods.
Model 1: Heteroskedasticity-corrected, using observations 1–220 (n = 40)
Missing or incomplete observations dropped: 180
Dependent variable: Production

	Coefficient	Std. Error	t-ratio	p-value	
Const	0.464444	0.245632	1.8908	0.06720	*
Fin. Pot.	-0.166788	0.180431	-0.9244	0.36180	
Phys. Cap.	-0.0446143	0.0921645	-0.4841	0.63144	
Mark. Acc.	0.541022	0.121409	4.4562	0.00009	***
Soc. Cap.	0.195539	0.0897155	2.1795	0.03631	**
Transf.	0.252277	0.133115	1.8952	0.06660	*

Source: Data processed by authors.

Statistics based on the weighted data:

Sum squared resid	79.18720	S.E. of regression	1.526118
R-squared	0.850950	Adjusted R-squared	0.829031
F(5, 34)	38.82218	P-value(F)	4.13e-13
Log-likelihood	-70.41625	Akaike criterion	152.8325
Schwarz criterion	162.9658	Hannan-Quinn	156.4964

Statistics based on the original data:

|			
Mean dependent var	1.200000	S.D. dependent var	0.966092
Sum squared resid	10.66537	S.E. of regression	0.560078

Source: Data proceeded by authors.

The assessment shows that market access, social capital and state transfers have a positive effect on production, while financial potential and physical capital do not have significance. The model is significant and the predictive ability of the model is good (85%).

This model meets the conditions:

Residues are normally distributed (P = 0.78). This also shows the following graph.
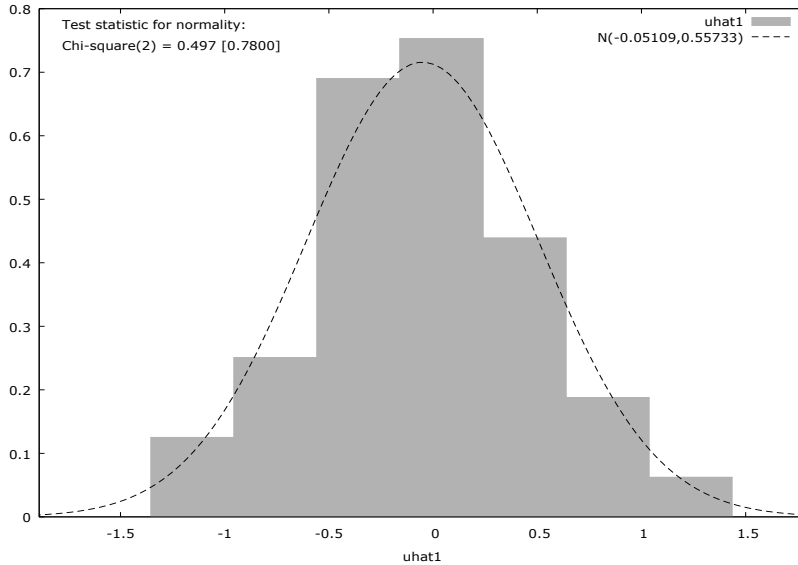
Source: Data processed by authors.

There is no collinearity between independent variables. This is indicated by the VIF indicator as below, where in any case it is not greater than 10:

Financing Potential	1.174
Physical Capital	1.515
Market Access	1.811
Social Capital	2.177
Transfers	1.520

VIF is calculated with the formula:
$$VIF(j) = 1/(1 - R(j)^2)$$

Where R(j) is the multiple correlation coefficient between variable j and the other independent variables.

The above variables are also measured through the multinomial logistic model (table 2.).

Table 2. Measured variables by multinomial logistic model.

Multinomial logistic model
Model 4: Ordered Logit, using observations 1–220 (n = 40)
Missing or incomplete observations dropped: 180
Dependent variable: Production
Standard errors based on Hessian

	Coefficient	Std. Error	z	p-value	
Fin. Pot.	-0.378712	0.833563	-0.4543	0.64959	
Phys. Cap.	0.179405	0.455072	0.3942	0.69341	
Mark. Acc.	2.09072	0.629158	3.3230	0.00089	***
Soc. Cap.	0.543713	0.390548	1.3922	0.16387	
Transf.	1.29105	0.686057	1.8818	0.05986	*

cut1	0.907182	0.968807	0.9364	0.34907	
cut2	5.13279	1.39163	3.6883	0.00023	***
cut3	8.58241	2.02088	4.2469	0.00002	***

Mean dependent var	1.200000	S.D. dependent var	0.966092
Log-likelihood	-28.73057	Akaike criterion	73.46113
Schwarz criterion	86.97217	Hannan-Quinn	78.34630

Source: Data processed by authors.

Number of cases 'correctly predicted' = 28 (70.0%)
Likelihood ratio test: Chi–square (5) = 53.093 [0.0000]
The assessment shows that market access and state transfers have a positive effect on production, while social capital seems to have a positive but not significant role. The model is significant and the predictive ability of the model is good (70%).
Based on the results of the evaluation formulate as follows:
BX0=-0.3787*Fin.Pot. +0.1794*Phys.C.+2.0907*Mark.Ac.+0.5437*Soc.C. +1.291*Transf.
The above formulation helps us to estimate at what level the output variable is expected to be a farm with certain values of factor X0 included in the model. For example, if Fin.Pot.=0, Phys.Cap.=1, Mark.Acc.=2, Soc.Cap=0 dhe Transf.=0, the value of the upper expression would be 4.36. This value is between cut1 and cut2, which means that this farm is expected to be at the level of production estimated 0 or 1.

RESULTS OF MEASUREMENT
There have been some deficiencies on category of the data collected and interviewed process has been difficult. The results suggest a presentation of relationships between production and financial potential according to the perception of interviewed (Table 3). So around 8.6% categorically strongly disagreed that production is increased and between them around 4.6% states that financial potential is increased, while 4% of farmer's believes that financial potential is decreased. About 25% disagreed that production is increased and between them around 18.6% states that financial potential is increased, while about 6.8% believes that financial potential is decreased. Following about 35.5% agreed that production is increased and between them about 20.5% that financial potential is increased and around 15% that financial potential is decreased. Only about 7.2% of farmers' strongly agreed that production is increased; between them 5.4% that financial potential is increased and about 1.8% believes that financial potential is decreased. Around 64.1% believes that financial potential is increased and 35.9% that was decreased, and in total most of them (~ 42.7%) support that production is increased and few of them (~ 34.1%) that the production is increased. The lack of information is also expressed in this category of data (~ 23.2%).

Table 3. Share by production and financial potential.

Fin. Pot.	Prod.					
	0	1	2	3	(blank)	Grand Total
0	9	15	33	4	18	79
1	10	41	45	12	33	141
Grand Total	19	56	78	16	51	220

Source: Data processed by authors.
From the accumulated indicators connected to production and market access (Table 4) it is evidenced that most of interviewed farmers (~ 42.7%) support that production is increased and few of them (~ 34.1%) that the production is increased, while there is a pessimistic attitude about increase of the market access. So most of farmers (~ 43.2%) believe that market accesses is decreased and few of them (~ 30.9%). In total there is a lack of data even for this category of information (~ 25.9%).

Table 4. Share by production and market access.

Mark. Acc.	Prod.					
	0	1	2	3	(blank)	Grand Total
0	11	10			2	23
1	4	37	11	1	19	72
2	1	3	37	8	7	56
3			7	4	1	12
(blank)	3	6	23	3	22	57
Grand Total	19	56	78	16	51	220

Source: Data processed by authors.

Indicators of the social capital (Table 5) suggests that most of farmers' (~ 29.5%) are not active in farmers' associations or other forums of social capital, while despite data's absence most of them (47.3%) are participants in forms of associations (from partially active ─ to organizer).

Table 5. Share by production and social capital.

Soc. Cap.	Prod.					
	0	1	2	3	(blank)	Grand Total
0	12	25	23	5		65
1	6	15	13	3		37
2	1	13	29	3		46
4		3	13	5		21
Grand Total	19	56	78	16		169

Source: Data processed by authors.

CONCLUSIONS AND DISCUSSIONS

The study provides a comprehensive overview of hypothesized variables; such are financial potential, and physical capital, and market access, and social capital and the state transfers on the possibilities for increasing agricultural production in the peri–urban area of Tirana in Albania.

The financial potential and the physical capital are not significant for increase of production. Agriculture activity in studied area does not use intensively labor and inputs for ensuring further high and stable incomes. Farmers in certain area generally employ a low scale of mechanization and technology and have low access to physical capital. Moreover, employment in agri–sector is competing with high wages and attractive jobs in services provided by the nearby metropolis. Consequently, agriculture and farming in studied peri–urban area is seen more as a part–time supplementary activity for income than as a primary activity. Præstholm and Kristensen (2007) are confirming phenomena of part–time farming in the peri–urban area of Copenhagen in Denmark. Koomen et al. (2008) argue that farming is only a marginal reason to survive in the peri–urban area. In that sense it is justifiable why the financing potential and the physical capital may not affect agricultural farmers' production in studied peri–urban area of Tirana.

The market access, social capital and state transfers are significant factors for increase of production. The farmers' perception about their natural interest for increasing access to a metropolitan market, such is Tirana, deserves better understanding by policy practitioners, but it cannot be reduced to agri–protection practices or just by subsidies. Intervention should aim to adjust imperfections in the market by increasing farmers' reputation but not necessarily by protecting them. A lesson emerges from this case; the 'best protection' would be by increasing farmers' skills in a added value market and with standards in which transfers would be reasonable to go to new knowledge and social capital, but not direct involvement of government among actors in the market. Narrod et al (2009) argues that there is a need for the government to correct specific market failures in the chain, but not to protect the chain it–self; given

the wide evidence of elite capture in farmer groups that have strong political affiliations, this separation is considered important. Putnam (1993), answers: Why not experiment with modest programs for training that bring together firms, educational institutions, and local community associations? The latent effects of such programs on social capital accumulation could prove powerful effects.

REFERENCES
[1] Bessière J. (1998). Local Development and Heritage: Traditional Food and Cuisine as Tourist Attractions in Rural Areas. European Society for Rural Sociology, Sociologia Ruralis. Volume 38, No. 1.
[2] Taylor E., Martin P. (2001). Human capital: Migration and rural population change. Handbook of Agricultural Economics, volume 1, Elsevier.
[3] Baldock D., Beaufoy G., Brouwer F., Godeschalk F. (1997). Farming at the Margins: Abandonment or Redeployment of Agricultural Land in Europe. IEEP London/Agricultural Economics Research Institute, The Hague.
[4] Boserup E. (1965). The conditions of agricultural growth. The Economics of Agrarian Change under Population Pressure.
[5] Zasada I. (2011). Multifunctional peri–urban agriculture — A review of societal demands and the provision of goods and services by farming. Land Use Policy 28, Elsevier.
[6] Romic M., Romic D. (2002). Heavy metals distribution in agricultural top soils in urban area. Environmental Geology 43:795–805.
[7] Binswanger H. (1989). The Policy Response of Agriculture. Proceedings of the World Bank Annual Conference on Development Economics.
[8] Tostlebe S. A. (1957). Capital in Agriculture: Its Formation and Financing since 1870. Princeton University Press.
[9] Schultz W. Th. (1961). Investment in Human Capital. The American Economic Review, Vol. 51, No. 1.
[10] Deininger K., Feder G. (2001). Land institutions and land markets. Handbook of Agricultural Economics, volume 1, Elsevier.
[11] Anderson K., Martin W., Valenzuela E. (2014). The relative importance of global agricultural subsidies and market access. World Bank.
[12] Kaganzi E., Ferris S., Barham J., Abenakyo A., Sanginga P., Njuki J. (2009). Sustaining linkages to high value markets through collective action in Uganda. Food Policy, Elsevier.
[13] Olson M. (1965). The Logic of Collective Action; Pubic Goods and the Theory of Groups. Harvard University Press.
[14] Krishna A. (2002). Moving From the Stock of Social Capital to the Flow of Benefits: The Role of Agency. Duke University.
[15] Adams W. D., Vogel C. R. (1984). Rural financial markets in Low Income Countries: recent controversies and lessons. Studies in Rural Finance. Agricultural Finance Program Department of Agricultural Economics and Rural Sociology, the Ohio State University.
[16] Barry J. P. (2001). Agricultural finance: Credit, credit constraints, and consequences. Handbook of Agricultural Economics, volume 1, Elsevier.
[17] Diagne A., Zeller M., Sharma M. (2000). Empirical measurements of households' access to credit and credit constraints in developing countries: methodological issue and evidence. Food Consumption and Nutrition Division International Food Policy Research Institute. Washington, D. C.
[18] Zellera M., Diagnea A., Mataya Ch. (1998). Market access by smallholder farmers in Malawi: implications for technology adoption, agricultural productivity and crop income. Agricultural Economics 19, Elsevier.
[19] Laband D., Lentz B. (1983). Occupational inheritance in agriculture. American Journal of Agricultural Economics, Vol. 65, No. 2.
[20] Garnett A., Appleby M., Balmford A., Bateman I., Benton T., Bloomer P., Burlingame B., Dawkins M., Dolan L., Fraser D., Herrero M., Hoffmann I., Smith P., Thornton P., Toulmin C., Vermeulen S., Godfray H. (2016). Sustainable Intensification in Agriculture: Premises and Policies. Science Galley. Policy Forum. Agriculture.
[21] Markusen A. (2008). Human versus physical capital. Public Policy for Regional Development. Routlege Studies in Global Competition.

[22] De Janvry A., Fafchamps M., Sadoulet E. (1991). Peasant household behaviour with missing markets: some paradoxes explained. The Economic Journal, 101.

[23] Dorward A., Kydd J., Morrison J., Poulton C. (2005). Institutions, markets and economic development: linking development policy to theory and praxis. Development and Change, 361. Institute of Social Studies.

[24] Shiferaw B., Hellin J., Muricho G. (2011). Improving market access and agricultural productivity growth in Africa: what role for producer organizations and collective action institutions? Food Security. The Science, Sociology and Economics of Food Production and Access to Food.

[25] Markelova H., Meinzen–Dick R., Hellin J., Dohrn S. (2009). Collective action for smallholder market access. Food Policy, Elsevier, Volume 34, Issue 1.

[26] Putnam R. (1995). Bowling Alone: America's Declining Social Capital. Journal of Democracy. Culture and Politics.

[27] Dasgupta P., Serageldin I. (2000). Social Capital a Multifaceted Perspective. Cambridge University. The World Bank, Washington, D. C.

[28] Coleman J. (2000). Social capital in the creation of human capital. University of Chicago.

[29] Putnam R. (2000). Bowling Alone: The Collapse and Revival of American Community. Simon & Schuster.

[30] Narayan D. (1997). Voices of the Poor: Poverty and Social Capital in Tanzania. Washington, D.C. World Bank Development Studies and Monographs Series 20.

[31] Præstholm S., Kristensen S. P., (2007). Farmers as initiators and farms as attractors for non–agricultural economic activities in peri–urban areas in Denmark. Geografisk Tidsskrift 107.

[32] Koomen E., Dekkers J., van Dijk T. (2008). Open–space preservation in the Netherlands: planning, practice and prospects. Land Use Policy, 25.

[33] Narrod C., Roy D., Okello J., Avendaño B., Rich K., Thorat A. (2009). Public–private partnerships and collective action in high value fruit and vegetable supply chains. Food Policy, Elsevier.

[34] Putnam R. (1993). The Prosperous Community; Social Capital and Public Life. The American Prospect.