Journal of Environment and Earth Science ISSN 2224-3216 (Paper) ISSN 2225-0948 (Online) Vol.5, No.5, 2015



Land Registration vis-à-vis Land Management: The Case of Gishe Rabel District, Amhara State, Ethiopia

Ayele Behaylu^{1*} Tahir Hussain²

1.Department of Geography and Environmental Studies, Adigrat University, Ethiopia 2.Professor, Department of Geography and Environmental Studies, Adigrat University, Ethiopia *Corresponding Author: ayeleby@gmail.com

Abstract

Land registration and certification has been alleged as a prerequisite for securing property rights which is vital for sustainable land management and agricultural development. The objective of this study was to investigate the role of land registration and certification program in assuring sustainable land management in Gishe Rabel District, in Amhara State of Ethiopia. Data for this study were collected through questionnaire, interview of farmers and experts in the field and focus group discussions. About five hundred and forty households were taken as sample population for the questionnaire. A total of one hundred and sixty eight households participated in the focus group discussions. The number of participants for interview was sixty. The data collected through questionnaire were analyzed quantitatively; whereas the data collected through focus group discussions and interviews were compiled, summarized and interpreted qualitatively by cross checking with the responses of questionnaires. The findings of this study show that in Gishe Rabel District rural land registration and certification program assured sustainable land management.

Keywords: land registration, certification, tenure security investment, land management

1. INTRODUCTION

Lives of many millions of people particularly rural dwellers in developing countries of the world depend on land. Cotula *et al.* (2006) argue that land is a basic resource for economic development, food security and poverty reduction. They argue that land contributes to a major share of Gross Domestic Product (GDP) and employment in most countries, and constituting the main livelihood basis for a large portion of the population.

In Ethiopia, land is a basic resource in which agriculture is the main stay of the economy contributing almost half of the country's Gross Domestic Product (GDP), 89% of the population engaged in it, accounts almost 80% of export earnings, and supplies three-fourth of the raw material requirement for agro-based domestic industries (CSA, 2010). However, this valuable property is being degraded. There are various factors for land degradation. These factors may be demographic, social, and institutional and policy issues, economic and environmental changes (Mitku *et al*, 2006). Some of these factors mentioned by several researchers include population pressure, diminution of the size of farm holdings, improper land use practices, lack of technology, land tenure insecurity, steep topography, repeated land redistribution, limited access to credits and limited education which are the factors leading to unsustainable land management, soil erosion and nutrient depletion (Aklilu and Graaff, 2007).

As indicated by studies, land tenure insecurity is a major factor for land degradation and unsustainable land use (Sutcliffe, 1995). There are a variety of factors that contribute to land tenure insecurity. According to Gizachew (1994) factors that cause land tenure insecurity are: growing population pressure which in turn causes scarcity and fragmentation of farm lands; lack of a proper and accessible juridical body responsible for land disputes; lack of knowledge on the part of rights holders of their rights and their inability to defend their rights; and increasing rural poverty and the fact that farm life is becoming unviable. Tenure insecurity can be caused by disputes with relatives over inheritance claims; expropriation of land by government agencies without adequate compensation; and redistribution forced on communities by their administrators; restrictions on the amount of land that can be rented out and short periods for land leases and rent controls; and fear that tenants may lay claims of use right on the land they are renting. According to the EEA/EEPRI (2002) there are also other factors for insecurity of tenure such as suspicion of further land redistribution and how long farmers feel they can stay in their current holding in the future. Therefore, in most countries tenure insecurity is the major problem affecting the land management system, and caused either by fear of eviction by the government or land redistribution (Field, 2007).

Tenure security is deemed to be of fundamental importance in determining farmers' investment in land provided that land titles are well defined and ownership and exchange are adequately enforced reasonably low cost transaction (Kung, 1995).

The existence of redistribution of land aggravated the problems of land tenure insecurity, resulted in small and fragmented land holdings, and reluctance to make long-term investments on land. This in turn leads to greater natural resources degradation, poor productivity of labor and land, and finally to deepened poverty (Bereket, 2008). Land tenure security is considered as a milestone for the adoption/adaptation of sustainable land

management practices and for shaping the farmers land use decisions. Security of tenure is a an initial step for farmers' practice of land investment in terms of tree planting, buying fertilizer, using manure, constructing terraces and water ways, etc (Alemneh *et al*, 1997). Brasselle *et al* (2002) stated that tenure security has a positive impact on land investment because land owners are expected to be willing to invest more when they feel tenure security. Hence, it enables farmers to maintain long-term investments and conservation practices as a return for incentive of certification. That is why policy makers, government and non government officers, private sectors, donor agencies, researchers and the public have given a major attention on this issue of tenure security.

Perceived tenure security plays an important role for making investments in land management, and adopting best copping system which is possible through land titling (Berhanu *et al*, 2003). According to Berhanu *et al* (2003) farmers in northern Ethiopia perceived that long-term investments on lands and durable soil conservation structures like stone terraces are associated with secure land tenure, where as short-term investments in soil bunds are strongly linked to insecure land tenure. Since it increases security of tenure, rural land titling enable landholders to have incentives to investment in land and long-term protection of the environment (Solomon, 2006).

According to Laiglesia (2004) in Nicaragua possession of legal property documents/ registries in enhancing agricultural investment incentives increased the probability of carrying out land-attached investments by 35%. Bruce and Migot-Adholla (1994) also explained that land titles and clarity of land rights play an important role for providing incentives for investment in land use. Besides to this, an influential study was made by Feder *et al* (1988) in Thailand show that certification of land titles to farmers provide not only tenure security but also higher level of land investment and higher land price. Titled land had higher capital stocks of 56-250% and use of labor (increased by 8-15%), draft power (increased by 25-39%), and fertilizers and pesticides (increased by 23-34%) and compared to untitled land, resulting in higher output and productivity.

In Costa Rica ownership of tenure security as a result of protected land right had brought farm investment per unit of land. Increased investment and higher output and income were also realized on titled land in Costa Rica, Brazil, Ecuador and Paraguay (Salas *et al* 1970; Feder and Nishio 1998). Analogously, the study by Vilamizar (1984) at three Brazilian states shows that investment per hectare is substantially greater on titled land than untitled land. Similarly, a survey study made by IDB (1986) in Jamaica revealed that there was a greater incidence of permanent and semi permanent crops among farmers with titled lands than untitled lands. According to the IDB's report, following the bestowing of certificates farmers planted more permanent and semi permanent crops. Moor (1996) in his study in Manincaland province of Zimbabwe argued that there is a positive impact of land rights status on land investment activities and productivity (Moor, 1996). The study demonstrated that tenure security has significant positive effect on farmers' long-term land investments and increment in yield. Alston *et al* (1996) in their studies at Brazil show that although there is difference with location from market center, the titled land is more valuable than untitled land. Without taking in to consideration of market distance, titled land of a given agricultural quality has a 189% higher value than untitled land at the same location. Berhanu and Swinton (2003) also founded that land titling in Tigray State has brought durable long-term land investments like soil bunds.

Generally, it is argued that the more secure systems provide the necessary incentives to farmers to better management of their land and invest in land improvement measures. The more secure the farmers are about their land, the more they are interested in making investments in land management (EEA/EEPRI, 2002). Again, it is argued that land tenure security is vital to assure investment on land. This can be done through title certification (IIED, 2006). However, lack of widespread land titling programs in Africa has led many to question the conventional wisdom regarding the importance of secure property rights for investment in land (Goldstein and Udry, 2008).

For nations to have good wealth that exists in their land resources effective systems of land registration, land administration, and land management are required. Land registration ensures tenure security that promotes productive land use and investment in the land resources for agricultural development, commercial and industrial enterprises (Rozelle *et al*, 1998; Marquardt, 2006). In relation to this, in its strategy of sustainable development and poverty reduction, the Ethiopian government enacts a land policy to ensure land tenure security for farmers to protect their rights, farmers' landholdings should be registered and user certificates should be given to them to start land management and soil conservation activities in combating soil erosion The policy addresses the issue of tenure insecurity among others through land registration and certification. (Deininger *et al.*, 2003a).

Thus, rural land registration and certification in Ethiopia started in 1998 (Amdissa, 2006). Four states; Tigray, Amhara, Oromia, and SNNP have conducted land registration and certification programs with different approaches and methodologies of land parcel identification, boundary demarcation, land registration, land certification and dissemination of land information (Solomon *et al*, 2006; Deininger, *et al.*, 2007).

However, several researchers in their studies have divergent viewpoints regarding the relation between certification and investments on land management. Berhanu *et al* (2003) argued that land titling and legal

enforcement of title are considered fundamental for better soil conservation and land management. They had shown that more secure land tenure and land rights enhance farmers to make investment on land. In contrast to this, there are also cases where land registration and title certification does not necessarily assure sustainable land management (Adhola-Migot, 1991).

There are numerous case studies conducted in different areas that show the role of land registration and title certification assured land management. Berhanu *et al* (2003) in their study argued that land titling and legal enforcement of title are considered fundamental for tenure security and hence it enhances farmers to make investment on land. A study by Kabubo-Mariana and Linderhof (2009) in two provinces of Kenya (Naro and Kajado) show that land management practices strengthened due to land registration and title certification in the region as the cost of other incentives. Deininger *et al* (2003b) in their study at Nicaragua also founded that land titling and project administration has great contribution to land investments.

In light with the above points of view, this study was designed to investigate the role of rural land registration and certification program in assuring sustainable land management in Gishe Rabel District in Amhara state.

2. Materials and Methods

2.1. Site description

Geshe Rabel is one of the Districts in the Amhara State of Ethiopia. It is located at the eastern edge of the Ethiopian highlands in North Shewa Zone, Geshe Rabel is bordered on the south by the Menz Gera Midir, on the west and north by the South Wollo Zone, and on the east by Antsokiyana Gemza; the Wanchet River defines its western boundary. The name of this District is coming from the name of a District of the former province of Shewa, Gishe. The capital of Geshe Rabel is Rabel.

Elevations in Gishe Rabel District range from about 1200 meters along the Wanchet to over 3000 meters above sea level in the ridge of mountains that run near the eastern border of this District.

The District is characterized by a rugged terrain, degraded lands which is resulted in the decline of productivity of agricultural land. The area is advantageous in natural forests than other Districts of North Shewa Zone. But these natural forests are in declining situation due to uncontrolled harvesting for fuel wood and charcoal, construction and farm implements.

Agro-ecologically, it is classified as *Wurch* (Alpine), *Dega* (Temperate), *Woina Dega* (Sub-tropical) and *Kolla* (Tropical). The rainfall pattern of the District is bimodal; unpredictable in nature and its distribution most of the time extends from June to August. The average annual rainfall ranges from 650mm to 1000 mm per annum. The mean annual temperature of the area is 10.5°c.

The District comprises 11 *Kebele* administrations (KAs), having one urban KA and 10 rural KAs. The total population of the District is estimated as 61,521, an increase of 19.97% over the 1994 census, of whom 30,448 are men and 31,073 women; 2,774 or 4.51% are urban inhabitants. With an area of 658.78 square kilometers, Gishe Rabel District has a population density of 93.39, which is less than the Zone average of 115.3 persons per square kilometer. A total of 13,691 households were counted in this District, resulting in an average of 4.49 persons to a household, and 13,199 housing units.



Fig.2.1. Map of the study area

2.2. Data sources

To get the required data from the primary sources, questionnaire survey, in-depth interviews, case studies, and focused group discussions were employed. These techniques were used to collect data about land registration and related issues, perceptions of farmers towards redistribution of land in the near future, perceptions of farmers towards conservation of resources before and after certification, investments on land undertaken by the households after certification, and level of awareness on the rights and obligations of households under their holdings. Structured questionnaire with close-ended and open-ended questions were used to collect primary data from sample households. A focus group discussion (FGD) with open-ended questions was done in all sample KAs. FGD facilitators were selected. Individuals for the discussion were selected by facilitators. The FGD was conducted while farmers were participating watershed conservation activities in sample KAs. The total number of group members in each sample KA was eight. The total number of groups was seven in each KA. A total of one hundred and sixty eight households were participated in the FGDs. Semi-structured interviews were conducted with few individuals. The participants were informants such as Development Agents of all sample KAs; experts from the agriculture and rural development office of Gishe Rabel District; land administration committees (LACs) of sample KAs; chairmen of KAs; and farmers. From each sample KAs, about twenty farmers were participated,

2.3. Sampling design

For the study three *KAs* were selected from a total of ten rural *Kebeles* of the District. The sample *KAs* selected were Feresbet, Girar-Amba and Del. About one hundred and eighty households from each sample *KA*, and a total of 540 households were taken as sample population for questionnaire.

For the study systematic sampling method was applied by taking the nth element of the sample frame. But, first lottery method was used to select the first element; with a specified gap samples from the sample frame were picked. The sample frame from was taken from KA offices of the respective KAs.

2.4. Data analysis

The data analysis process was done after the desired data were collected from different sources through various tools of information gathering. Data collected through questionnaire about issues related to certification and land investments were analyzed quantitatively using percentages. The responses from FGDs and interviews were compiled, summarized and interpreted qualitatively by cross checking with the responses of questionnaires.

3. Results and Discussion

Land improvement activities and the motivation of individual landholder towards practicing land improvement activities is used to identify whether or not land registration and certification ensured tenure security.

Land registration and certification enable to ensure tenure security which in turn enables to increase land related investments. Peoples having certificates are more interested in making long-term land related investments. Insecure of tenure on land and other natural resources is the main reason for the natural resources end-users to be unwilling to invest in long-term sustainable land management (GEF, 2005).

When we come to the sample KAs in the study area, 98 percent of samples in Feresbet KA, 96.5 percent of Girar-Amba KA, and 98.7 percent of the sample respondents in Del KA replied that the bestowing of land holding certificates was essential for the management of natural resources.

The results of our study show that there is an increasing of land management practices after land registration and certification as compared to other research results. For example Berhanu and Fayera (2005) in their studies in four Districts of Amhara state (Bahir Dar Zuria, Fogera, Gozamen and Meqet) founded that more than 59 percent of of farmers perceived that land registration and certification had brought improvement in sustainable land management. Another study by Sabita (2010) in Ethiopian rift valley region showed that more than 70 percent of the respondents (farmers) agree that certification had increased investment in sustainable land management. This may indicate that there is increasing of land management activities from time to time after years of land certification.

Responses of interview and FGDs in sample *KAs* of the study area show that, the bestowing of land holding certificates is essential for the conservation of natural resources specially management of individual farmland. According to their explanation, farmers are aware of that they have the right to use the land for long period of time, they are protecting the land as their other own private properties. Most of the interviewees stated that if the certificate had bestowed to farmers in the previous regimes their resources would not have been lost as a non useful material.

Generally, farmers stated that even though they were conserving their farmlands in the previous regimes, more toughen land related investments were not done due to the fact that in the previous regimes they were not fully confident that their holdings will continues with them for long existence. From their explanations it was possible to understand that though the military government had given more emphasis on tree plantation

and construction of terraces on communal grazing lands and rugged areas, it did not give attention to conservation of individual farmlands. Their explanation is similar research results which state that during the period 1985-1989 substantial funds were provided by donors for soil conservation tree planting and hillside closure and rehabilitation as part of its assistance to Ethiopia's post drought recovery program, and much of the evidence of this investment has long since vanished, and user rights to the conserved areas were never defined though no more emphasis was given to farmlands, and this is related with tenure insecurity (Adams, 2001; Fitsum *et al*, 2002). However, the certificate enabled them to conserve their land and other natural resources. Investments were strengthened as a result of certification.

Experts of soil and water conservation also explained that the bestowing of land holding certificates ensured land tenure security, and hence it enables farmers to practice land management on farmlands. Some of the soil and water conservation activities that practiced on farmlands are construction of stone-bunds, soil-bunds, stone-faced soil-bunds, cutoff drains, waterways, planting of indigenous plants and grasses and check dames.

Conclusion

Poor land management is caused by tenure insecurity among farmers. Tenure security is considered to be ensured through rural land registration and certification program. Rural land registration and certification of farmlands in Gishe Rabel District has ensured tenure security in which farmers gain confidence in their land holdings. This in turn enables farmers to conserve their lands. The study shows that farmers are aware of that no one can evict their farmland because their names are recorded on the certificate so that they practiced land management activities.

References

- Adams, M. 2001. Tenure security livelihoods and sustainable land use in southern Africa. Paper presented at SARNP. Conference on land reform and poverty alleviation in southern Africa June 4th -5th.
- Aklilu Amsalu and Graaff, J. 2007. Determinants of Adoption and Continued Use of Stone Terraces for Soil and Water Conservation in an Ethiopian Highland Watershed. Ecological Economics 61, 294-302.
- Alemneh Dejene, Elieho, K. Shishira Pius Z. Ya.na Fred H Johnsen. 1997. Land Degradation in Tanzania Perception from the Village World Blank Technical Paper NO. 370. The World Bank, Washington D, C, U.S.A.
- Alston, L., Libeecap, G.D. and Schneider, R. 1996. The determinants and impact of property rights: land titles on the Brazilian frontier. The Journal of law, economics and organization, **12**(1).
- Amdissa Teshome .2006. Agriculture, Growth and Poverty Reduction in Ethiopia: Policyk8 Processes around the New PRSP (PASDEP). A paper for the Future Agricultures Consortium workshop, Institute of Development Studies. Research Paper 4.
- Bereket Kebede .2008. Land Reform, Distribution of Land and Institutions in Rural Ethiopia: Analysis of Inequality with Dirty Data. Journal of African Economies 17 (4):550-577.
- Berhanu Adenew and Fayera Abdi. 2005. Land Registration in Amhara Region, Ethiopia. Securing Land Rights in Africa. Research Report 3. IIED: London.
- Berhanu Gebremedhin and Swinton, S.M. 2003. Investment in soil conservation in northern Ethiopia: the role of tenure security and public programs. Agricultural Economics, 29, 69–84.
- Berhanu Gebremedhin, Pender, J. and Ehui, S. 2003. Land Tenure and Land Management in the Highlands of Northern Ethiopia. International livestock Research Institute (ILRI).
- Brasselle, A.S., Gaspart, F. and Platteau J.P., 2002. Land Tenure Security and Investment Incentives: Puzzling Evidence from Burkina Faso. Journal of Development Economics, **67**, pp. 373-418. University of Namur, Rempart, de la Vierge.
- Bruce, J. W. and Migot-Adholla, S. E .1994. Searching for Land Tenure Security in Africa: Review, Kendall-Hunt Publishing Company, Dubuque, Iowa.
- Cotula, L., Toulmin, C. & Quan, J. 2006. Better Land Access for the Rural Poor Lessons from experience and challenges ahead.
- CSA .2010. Central Statistical Agency of Ethiopia. Annual Statistical Report: Addis Ababa, Ethiopia.
- Deininger, K., Daniel Ayalew Ali, Holden, S. and Zevenbergen, J. (2007) 'Rural land certification in Ethiopia: Process, initial impact, and implications for other African countries', in World Bank Policy Research Working Paper 4218: The World Bank.
- Deininger, K., E. Zegarra and Lavadenz, I. 2003b. Determinants and Impacts of Rural Land Market Activity: Evidence from Nicaragua, World Development 31(8): 1385–1404.
- Deininger, K., Jin, S., Berhanu Adenew, Samuel Gebre sillasie, Berhanu Nega .2003a. Tenure Security and Land-Related Investment Evidence from Ethiopia. Policy Research Working Paper 2991. Paper presented at the first international conference on the Ethiopian economy, EEA, Addis Ababa, Ethiopia.
- EEA/EEPRI .2002. Land Tenure and Agricultural Development in Ethiopia. Research report. Ethiopian

Economic Association/ Ethiopian Economic Policy Research Institute, Addis Ababa. Pp.157.

- Feder G. and A. Nishio .1998. The Benefits of Land Registration and Titling: Economic and Social Perspectives, Land Use Policy, Vol. 15:1. Pp25-43. PII: S0264-8377/97.
- Feder, G., T. Onchan, Chalamwong, Y. and Hongladarom, C. 1988. Land Policies and Farm Productivity in Thailand. Baltimore, MD: The Johns Hopkins University Press in association with the World Bank.
- Field, E. 2007. Entitled to Work: Urban Property Rights and Labor Supply in Peru. The Quarterly Journal of Economics, **122**(4): 1561-1602.
- Fitsum Hagos, Pender, J. and Nega Gebreselassie .2002. Land degradation and strategies for sustainable land management in the Ethiopian highlands: Tigray Region (second edition). Socioeconomic policy research working paper 25. ILRI (International Livestock Research Institute), Nairobi, Kenya. 80pp.
- Gizachew Abegaz .1994. Rural Land Use Issues and Policy: Overview. Dessalegn Rahmato (ed.) Land Tenure and Land Policy in Ethiopia after Derg. Proceedings of the Second Workshop of the Land Tenure Project. Working Papers on Ethiopian Development No.8. The Centre for Environment and Development, University of Trondheim, Norway. Pp 1-32.
- IIED .2006. Innovation in Securing Land Rights in Africa: Lessons from experience. International Institute for Environment and Development.
- Inter-American Development Bank (IDB).1986. Jamaica land titling project: feasibility report. Washington, DC.
- Kabubo-Mariana and Linderof .2009. Land Tenure, Sustainable Land Management and poverty: Case Studies from Kenya. School of Economics, University of Nirobi, Kenya.
- Kung, J. K. 1995. Equal entitlement versus tenure security under a regime of collective property rights: peasants' preference for institutions in post reform Chinese agriculture. Journal of comparative economics 21, 82-111(1995). The Hong Kong University of Science and Technology Kowloon, Kong Hong Academic Press, Inc.
- Laiglesia J. R. 2004. Investment and credit effects of land titling and registration: evidence from Nicaragua. London School of Economics. 5(3): 273–90.
- Marquardt, M. A. 2006. Global Experiences in Land Registration and Titling Global Experiences in Land Registration and Titling.
- Mitiku, H., Herweg, K. and Stillhardt, B. 2006. Sustainable land management –A new approach to soil and water conservation in Ethiopia. Mekelle, Ethiopia: Land resources management and environmental protection department, Mekelle University, Bern, Switzerland: CDE, University of Bern, NCCR North-south. pp. 305.
- Moor, G.M. 1996. Tenure Security and Productivity in the Zimbabwean Small Farm Sector: Implications for South Africa. Department of Agricultural Economics, University of Natal, Pietermaritzburg.
- Palm, L. 2009. BoEPLAU Technical Advisor's Final Report: 2005-2009. Sida Amhara Rural Development Programme, ORGUT Consulting AB.
- Rozelle, S., Li, G. and Brand, L.1998. Tenure, land rights, and farmer investment incentives in China. Agricultural Economics **19** (1998) 63±71. Elsevier Science B.V.
- Sabita Giri. 2010. The Effect of Rural Land Registration and Certification Program on Farmers' Investments in Soil Conservation and Land Management in the Central Rift Valley of Ethiopia. (MSc Thesis). Wageningen University, The Netherlands.
- Salas, O., Knight, F. And Saenz, C. 1970. Land Titling in Costa Rica: a Legal and Economic Policy, USAID Contract 515-178—T.USAID And University of Costa Rica Law School, San Jose.
- Solomon Abebe .2006. Land Registration System in Ethiopia. Comparative Analysis of Amhara, Oromia, SNPP and Tigray Regional States.
- Solomon Bekure, Gizachew Abegaz, Frej, L. and Solomon Abebe (eds) .2006. Standardization of Rural Land Registration and Cadastral Surveying Methodologies Experiences in Ethiopia Proceedings of a National Conference. Ethiopia—Strengthening Land Tenure and Administration Program (ELTAP), Addis Ababa.
- Solomon Bekure .2006. Benefits and Costs of Rural Land Titling: The International Experience.
- Sutcliffe .1995. Special Issues Land Rights and Access to Land in Post Derg Ethiopia. Ethiopian Journal for development research, Vol.17, No. 1. AAU. Pp.25-39.
- Vilamizar, M.-F. (1984) IBD financing in land administration programs. Paper presented at the International Workshop on Land Tenure Administration, August 20-24, Salvador, Brazil.

The IISTE is a pioneer in the Open-Access hosting service and academic event management. The aim of the firm is Accelerating Global Knowledge Sharing.

More information about the firm can be found on the homepage: <u>http://www.iiste.org</u>

CALL FOR JOURNAL PAPERS

There are more than 30 peer-reviewed academic journals hosted under the hosting platform.

Prospective authors of journals can find the submission instruction on the following page: <u>http://www.iiste.org/journals/</u> All the journals articles are available online to the readers all over the world without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. Paper version of the journals is also available upon request of readers and authors.

MORE RESOURCES

Book publication information: http://www.iiste.org/book/

Academic conference: http://www.iiste.org/conference/upcoming-conferences-call-for-paper/

IISTE Knowledge Sharing Partners

EBSCO, Index Copernicus, Ulrich's Periodicals Directory, JournalTOCS, PKP Open Archives Harvester, Bielefeld Academic Search Engine, Elektronische Zeitschriftenbibliothek EZB, Open J-Gate, OCLC WorldCat, Universe Digtial Library, NewJour, Google Scholar

