

THE ROLE OF PRIVATE INTERVENTIONS IN AGRICULTURAL LAND CONVERSION IN DISTRICT MALAKAND KHYBERPUKHTUNKHWA PAKISTAN**Taimoor Khalid¹, Dr. Bushra Hassan Jan², Dr. Akhtar Ali³, Prof. Dr Khalid Nawab⁴**

1. PhD Research Scholar, Department of Rural Sociology, University of Agricultural, Peshawar, Pakistan.
2. Chairperson, Department of Rural Sociology, University of Agricultural, Peshawar, Pakistan.
3. Associate Professor, Department of Rural Sociology, University of Agricultural, Peshawar, Pakistan.
4. Chairman, Department of Agricultural Extension and Education, University of Agricultural, Peshawar, Pakistan.

Corresponding Author:
Taimoor Khalid

Abstract

The present study deals with the role of private interventions in agricultural land conversion. A quantitative research design was adopted to portray information from a sample of 375 households through simple random sampling technique. At univariate level analysis simple frequencies and percentages distributions was applied and at bivariate analysis Chi-square and Tau-c (T^c) tests was adopted to found the association between the study variables. The results indicated that establishments of private housing societies on agricultural land is responsible for reduction in usage of land for agricultural purposes as showed by significant and positive association ($P= 0.000$, $T^c = 0.151$). Similarly the association between reduction in agriculture land and establishments of private educational institutions was found significant ($P= 0.000$) and positive ($T^c = 0.064$). Also, the association of reduction in agriculture land was found significant and positive with private residential extension on agricultural land ($P= 0.000$, $T^c = 0.200$). In addition, the association of reduction in agriculture land was found significant and positive with establishments of private industries on agrarian land ($P= 0.000$) and positive ($T^c = 0.115$). Likewise, the association of reduction in agriculture land was found significant and positive with installation of petrol and gas stations on agricultural land ($P= 0.000$, $T^c = 0.192$). Similarly, the association between people prefer to build shopping mall instead of agricultural activities in the area and loss of agricultural land found highly significant ($P= 0.000$) and positive ($T^c = 0.049$). Adequate commercial conversion policies with proper enforcement mechanism and proper planning for land use for different purposes like markets, private institutions etc. are the major study recommendations.

Keywords; Private Intervention, Agriculture Land, Conversion, Pakistan

INTRODUCTION

Pakistan belongs to one of those countries whose budget directly or indirectly depends on agriculture sector, whereas this sector is considered as the pillar of the country's economy. In 1969 the share of Agriculture was about 46 % to the total Gross Domestic Product (GDP), while in 2005 it condensed to 25%, and it was assumed that it further shrink down to 23.7 % by the end of 2017 (World Bank, 2017). Furthermore, in 2020 the share of agricultural sector to Pakistani GDP is more condensed to 22.8% (PBOS, 2020). Majority of rural communities are directly or indirectly engaged in this primary economic activity. In agricultural sector 60% work force were intricate in year 1949-52, with the passage of time, in 2003 their involvement was reduced to 42 % and in 2010 it was further reduced to 31 % (FAO, 2017). There are many natural, social cultural, political and economic reasons responsible of Agriculture land loss. However, intentional drop in influence of the agricultural land loss to the Gross Domestic Product as well as loss of employment prospects is the result of unplanned and uncontrolled expansion of built environment for non-agricultural purposes. The conversion of cultivated land to built-up area such as highways, housing societies, marketplace, shopping malls and factories is the main reason for the loss of Agricultural land (Ali, 2013).

Land use for farming, livestock and production of crops for human being usually through systematic use as known as Agricultural land. In more general it is also known as farmland or even crop land. Agriculture and agro base industries are considered as main stream profession of Pakistan, where the sector provides more than seventy percent of employment to local public of the country. Further, it has the greatest contribution to national Gross Domestic Product (18.9 %); also contribute more than 44 percent to export of the country. In simple, agricultural

sector play a pivotal role in development of national economy. It is a major source of production and export realizing significance of the agricultural land, play pivotal role in the development of the national economy. Growth of the sector is most crucial particularly in reduction of poverty and providing employment opportunities in rural areas of the country. In rural areas the farmers and general public usually depends on agriculture production and subsistence for fulfillment of basic lives needs. Therefore the development of the agricultural land is considered higher than non-agricultural sectors. (GoP, 2018).

Pakistan is an agricultural country out of the total area of 79.6 million hectares the cultivated area is covered 22.1 million hectares. Moreover, the remaining area is contained densely populated forests and rangelands. Similarly, the remaining area which is consisting of 23.3 million hectares constitutes cropped area. Whereas, 4.6 million hectares of the total area covered by forest. However, approximately out of 20.645 Billion acres agricultural land, 4,626 million acres is still unfertile and behind the cultivation whereas 16.19 million lower than farming in KPK. Generally, for housing, food production and human livelihood as a whole area considered significant aspect. Therefore, agricultural land is the most important and the backbone of economy of a country and at the same time it provides ample economic and social assistances to its inhabitants. Furthermore, transition of land is linked with various constructive and destructive consequences for humans and environment as well. Sociologically, transaction of land is important to produce food, feed and fiber for human use and it's also provides shelter for its habitants. While, environmentally, transition of land regulate a couple of environmental aftermath, such aftermaths consists of carbon emissions and loss of habitat for biodiversity with land clearing, soil degradation, erosion, overgrazing and other indefensible practices.

Economically, for farmers the most important and proficient wealth-generating strength is agricultural land for economic growth in the entire country. Nonetheless, due to the minimum and un-renewable nature of landscape stream generated an aggressive land use antagonism, frequently, among the farming and non-farming segments. Transition of land use or uses for non-agricultural purposes considerably minimize the agricultural land availability and portends food insecurity, generates unemployment's, weakening traditional profession, environmental problems and increases rapid urbanization etc. in the area. Ironically, due to certain reasons like massive population growth consequently high food production, the ratio of transition of developing countries, agricultural land is relatively higher than other developed countries of the world. Besides, lake of proper management, at policy and administration levels also created pressure on the existing agriculture land. To overcome the issue and minimize the problem of higher rate conversion practical steps are mandatory and need of the time.

LITERATURE REVIEW

The demand for agricultural land can be for various uses, urban, residential, industrial, commercial, recreational, educational etc. Demand for agricultural land is mainly dependent on the price of agricultural land. There is direct relation between the demands of land with price. The grater the price higher will be the demand while lesser the income the demand would be reduced (walters, 2013). The supply of agricultural land is given and fixed. In the context of conversion of land, farmers are considering the most important impeding brokers. At the same time farmer, himself, is a demand ant of his land. Apart from agricultural outputs the sector also provides efficacy and produce income for the farmers. It includes utility from agricultural land in shape of social-physical securities, high standard of lives, safety in time of crisis and inherited asserts for up springs as well. Further, majority of peasants feel difficult to retain their sold property (Chakravorty, 2013). The sources of certain piece of land usually base on the charges and opportunities of marketing of the farming sectors. Mostly the land conversion took place when the selling price exceed than the normal marketing of the region (Chakravorty, 2013; Wadhva, 1983). Similarly, Wadhva, (1983) finds that relatively high cost of agriculture land influence the farmers attitudes towards vend of farming land instead of further farming. As the peasants considered farming as expensive in term of physical laboring as well as financially in the modern era (Blank, 2001). It is thus concluded that just like other factors the sudden incensement of land price has multiplied the ratio of agriculture land conversion in the country.

The province of Punjab and local government, (2009) further elaborates that agricultural land is a land outside the cities which is mostly used for cultivation of crops including crops land, dairy farms, nurseries, orchards and pastureland; peri-urban area. The areas which are nearby to development and rural geography with low population concentration and primarily being used for agricultural activity and expected to be built-up in near future is put under the jurisdictions of as peri-urban area. In Pakistan agricultural land and agriculture production performs a

significant role and considered as the backbone of national economy. It contributes 18.9% into GDP of Pakistan While, it 44% to Pakistan's total exports of the country. Furthermore, the sector provides 70% employments opportunities directly and indirectly to the people of Pakistan. It provides both the driver of Pakistan's economy and capital of livelihood of Pakistani people in a very cheap way. Thus, the role of agro base economy is very crucial and has been a main stream profession for rural people of the country. It provides economic opportunities helping in reduction of poverty of vulnerable groups like rural people, landless as well as farmers who depends on agricultural sector for their livelihood. It is therefore important to develop agricultural sector and reduce the ratio of those people who are directly and indirectly depends on agricultural sector through development and proper policies (GOP, 2018).

The transition of land into real state or housing societies creates gap in rental income is significant, especially if the land is immediate or close to the urban area. In some developing countries it's communal that farms land uses for rental purposes other than non-agricultural purposes. Therefore, it's unbearable to find farming land where housing rent higher than agrarian purposes and cash which return from housing rents were used and generated for agricultural production or purposes. Generally some of the developed countries there were dilemmas regarding the agricultural land rent are smaller than the areas which are closer to urban or developed areas rent. Particularly, in England most of the agricultural land used for non-agricultural purposes (Keep, 2009). Similarly, in Japan at Tokyo mostly peoples are depends on real states business like established apartments on land or mostly the people used land for parking purposes, while some of the people continue their tradition as a farmer and utilized their land as a source of income from agricultural purposes (Yagi, 2013). Furthermore, in some areas where the farm are nearby to urban areas faced severe problems or challenges of increased housing cost as compared to rural housing cost due to land prices substantial greater than those rural areas (Castillo et al, 2003). So, such increased costs of urban houses might also be charges supplementary incidentals due to nearby urban-fringe, for example, maximum taxes linked with big farmhouses and other facilities used for agricultural rather not treated favorably. Such cost has a tendency to maximize as the land gets adjacent to the businesses hub region. These costs tend to increase as the land gets closer to the central business district.

However, the agriculture not just occurred in the rural areas of urban land conversion but took placed slowly in rural villages that have high closed to the city Centre. Different features like location usually admitted the structure of the land adaptation form an individual will also enables of land fitting to the fitting original goods. Such speedy conversion of agricultural land will alternatively influence the disorder of the fleshly, social and economic atmosphere for general public of the region. Research carried out emphasized from the standpoint of internal and exterior influences respectively. Internal factors are closely associated with biological and social characteristics like oldness, qualification, family size, employment besides farming, revenue either agro base or non-agro base etc. Along with issues concern to the activities of farming are the price of agricultural land, location and external outlook is factored out farmers and agricultural corporate outside the agriculture segment. The present study examined the radical situation (alteration of land laws), financial (GDP agriculture), and humanitarian amount and population growth, and convenience and land woken, physical state of land itself.

Agriculture land shifting is a problem and out-put of rising need for demand for growing population in shape of shelters and food requirements. People value the cash income and trends for non-cash decreasing gradually. Location factors of course would be a consideration for anyone in utilizing land. But generally the location factors can be a conclusive factor in the economic growth of a region. The land of zone-zone mostly occurred, in the center region will different than the suburban land and there is usually a real difference in property usage between rural and urban parts (Yunus, 2004). Land conversion in third world nations has followed different way than developed nation. It has different reason chiefly physical alteration of the low-cost and populations parameters. Physical changes in the budget observed basically from agriculture to speedy urban development. The country economy is in continuous transition from agriculture base to industrial base production. Whereas the demographic aspect it concern with greater demographic growth expansion consequently the alteration in agriculture land use took place in remarkable shape (Kustiwan, 1997). Beside two major factors, the government policy regarding agriculture and economic development has influence over agriculture land conversion and productivity. (Kustiwan, 1997). Urbanization and other related development both in term of social and economic influential pushing farming land for higher contribution to GDP has negatively rubbed agro base production. Furthermore, the poor financial conditions of farmers as well as landowners in land use that encourage them of their land ownership or use of its land. Beside, policy factor of the country is also critical as it one hand it pose restriction on conversion of land while on the other hand the constitution and administration facilitating the members to buy and hold land anywhere in the

country. Impact straight from the shifting of farm land operation form is declining woodland that directly targets a decrease in agricultural production. In city Yogyakarta, during the last decade on the borders of is situated in the southern share of the land of paddy fields recorded a reduction in 6.25 hectares/year, in the northern part of 4.95 acre/year and the western part of 4.86 hectare/year and the other part is relatively slow (Yunus, 2004). Property area decrease occurred in paddy field forecast towns bordering Yogyakarta city, so the local regime need to intervene to prevent or condense the existence of translation of farmed property. Similarly, the demand drivers of land for real estate sector are residential and commercial and real estate activities of Special Economic Zone (SEZ) Strong agriculture traditions of urban influence has strong factual land market functions in complex transitional areas that are greatly affected by the interface of urban influence (Drozd, 2004). In different way these derives put high demand for agricultural land. Along with high price the advantages atmosphere also provides back grounds for production in cash and smooth way to real estate scheme. Thus, the existing gap between the demand and supply of suitable area for residential and commercial real estate projects becomes greater and greater leading thereby to essential conversion of low lying wetland to buildable area (Raj & Azeez, 2011). As real estate is highly attractive to agriculture and the low price of agricultural land in term of cash product like in Kerala paddy area has become an anticipated strength for the capital and cash rich real estate industry because of its lower price compared to non-paddy land (Vasudevan, 2013). Similarly a recent study in Dindigul District of Tamil Nadu revealed that the land area under real estate tripled between 2001(23 hectares) and 2011 (70 hectares) while 212 hectares of agricultural land has been left out of cultivation in 2011 as compared to 2001. Due to the influence of real estate sector demand the market value of agricultural land has increased. Due to such reasons majority of the growers are selling their land as real estate plots for generating income rather than sticking on to non-viable agriculture (Suganthi & Manikandan, 2012). In the same district, a study observes that in Sirumalai traditional agricultural land is converted to resorts (Oppili, 2013). Thus real estate sector which is vibrant in the states where urbanization is higher, as such the real estate sector growth leads to conversion of agricultural land.

RESEARCH METHODOLOGY

Sampling procedure and Sample Size

Sample is a smaller set of data selected from larger population through multiple ways. Scientifically, it is the representative of sub set of whole study population whereas; sampling is the way samples are carried out (Sekaran, 2003). According to the official record of KP Bureau of Statistics, 2017, District Malakand comprises a total of 12,932 households. According to Sekaran, a sample of “375” suffices from a total number of “12,932” households (Sekaran, 2003). Moreover, the sample size was allocated to each UCs as per the population of the UCs through proportional allocation formula (S. M. Chaudhry, 2009). Proportional allocation of sample size is given in Table 1.

Proportional allocation formula for the determination of sample size;

$$n_i = \frac{n}{N_i} \times N_i$$

n = denoted sample size.

N = used for total number of household.

N_i = N_i signify household in each Union Council.

n_i = villages size from each UC's.

Table 1; Sample size for each Tehsil in district Malakand, KPK

Tehsil Name	UC Name	Households	Sample Size
Swat Ranizai (Batkhehla)	Khar	2478	72
	Upper Batkhela	3344	97
Sama Ranizai (Dargai)	Dargai	4478	130
	Ghari Usmani Khail	2632	76
Total		12932	375

Source- KPK Bureau of statistics 2017

Measurement of variable

The scale for the variable private interventions comprised of seven items and positive response on four or more than four items was consider as private interventions prolonged.

Indexation

In research, indexation is a method of quantifying rule, mainly in attitudinal when dealing with attitudinal account especially in the measurement of two items into a set of single variable. In simple, the linking of two different variables into single set of concepts is known as indexation (Nichnais, 1992 and smith, 1981).

Analysis of Data

The SPSS package was used at Uni-variate level to determine the frequency and percentage distribution of the respondents, Similarly, for Bi-Variate analysis, Chi-square and Tau-c (T^c) test was applied to assess the association between two variables and for Multi-Variate analysis would be used to control background variables.

Results & Discussions

Perception about role private interventions in agricultural land conversion.

Private interventions refers to non-governmental organization like property dealers & private corporations who usually take advantages from the poor farmers or land owner, take their land on very cheap cost, make their investment for developmental works and sell them on high cost leading thereby rapid agricultural land conversion in the region. To evaluate the perception of the study population regarding the establishment of private interventions as a factor of agricultural land conversion multiple statements has been formulated in the response of which as given in below Table 2.

The below table show that 204 (54.4%) of the population agreed that establishment of private housing societies on agricultural land is responsible for rapid land use change. Followed by, 127 (33.9%) of the respondents were of the view that establishment of private housing societies on agricultural land is not the cause of rapid agricultural land conversion. likewise, 44 (11.7%) of the respondents were of the view that they don't know regarding establishment of private housing societies responsible for rapid and use change. Therefore, the aforementioned data shows that most of the respondents were of the view that private housing societies are the cause of rapid land use conversion. The above responses of the respondents supported by Peerzado (2018) and stated that residential uses on agricultural land are crucial. Consequently, leads to non-agricultural activities as well as agricultural land mainly seen in the

rural area where overpopulation has led to increase and agricultural land uses for residential areas. That is why the population growth rate in the world especially in third one country exceeded intensely.

Likewise, data in the table also shows that 181 (48.3%) of the study population were of the view that establishment of private educational institutions on agrarian land is the cause of rapid land use change. Further, 108 (28.8%) of the respondents were of the view that establishment of private educational institutions on agrarian land is not the cause of rapid land use change. Moreover, 86 (22.9%) of the study population were ticked don't know. Henceforward, most of the respondents in the study population contracted that establishment of private education institutions are the leading cause of rapid land use change.

Correspondingly, the beneath table also illustrated that 190 (58.4%) of the respondents declared that private residential extension on agricultural land is the cause of rapid land use change. Followed by, 70 (18.7%) of the study population differed with the statement and stated that private residential extension on agricultural land is not the cause of land use change. Additionally, 115 (30.7%) of the respondents were of the view that they don't know about the statement that private residential extension on agricultural land is the cause of land use change. Therefore, the above discussion concluded that most of the study populations were of the view that private residential extension on agricultural land is the cause of land use change in the study area. The above statement supported and reported that, during the past some decades developing nation with changes economies, peoples also changes their agricultural land for non-agricultural purposes in quest of handsome money gain which leads to agricultural land conversion (Liu M, Tian H, 2010).

Furthermore, the data also exposed that 219 (58.4%) of the study population were of the view that establishment of private industries on agrarian land is the driving force for land transformation. Similarly, 66 (17.6%) of the respondents were of the view that establishment of private industries on agrarian land is not the reason of land transformation. Likewise, 90 (24.0%) of the study population don't know about the statement that establishment of private industries on agricultural land is the driving force for land transformation. Henceforth, the aforementioned discussion clinched that majority of the respondent were of the view that establishment of private industries is the foundation of land transformation in the study area. With addition, the data shown in the table that 248 (66.1%) of the respondents agreed with the statement and stated that installation of petrol pump and gas station is the main reason for rapid land use change. Further, 109 (29.1%) of the respondents were of the view that installation of petrol pump and gas station are not the reason of land conversion in the study area. Likewise, 18 (4.8%) of the respondents don't know regarding the statement as installation of petrol pump and gas station is the main reason for rapid land use change. Thereof, mostly the respondents confirmed that establishment of private petrol and gas station is the reason of land conversion in the field. The above statements linked and supported with (Hansen MC, Stehman SV, 2010) stated that internationally, almost 0.25 ha of land is cultivated per head of the world' population. Historically in 1960 crop land per capita was worldwide 0.5. In developed countries nearby half of the land is arable land is the most common form of agricultural land, but at the passage of time due to private intervention i.e. housing societies and private infrastructure and development destroy agricultural land which directly leads to food insecurity, climate change. Moreover, such agricultural land cover changes and dynamic land use changes altered land cover for centuries, but recent land cover change higher than ever (Stehman & Potapov (2010).

Likewise, the data also show in the below table that 256 (68.3%) of the respondents agreed with the statements that relatives of influential people by the agrarian land in lower rates for private installation. Further, 61 (16.3%) of the study population disagreed with the statement and stated that relatives of influential people by the agrarian land in lower rates for private installation is not the reason of land conversion. additionally, 58 (15.5%) of the respondents don't know that relatives of influential people by the agrarian land in lower rates for private installation. As a result, the above discussion revealed that most of the respondents in the study area agreed with the statement. The result further show that 193 (51.5%) of the respondents were of the perception that people prefer to build shopping mall instead of agricultural land in their area. While 125 (33.3%) negate about the statement and 57 (15.2%) of the respondents were unsure about it. Furthermore, the majority of the respondents were of the perception that shopping malls instead of agricultural land in their area is the cause for land use change.

Table 2 Perception about role private interventions in agricultural land conversion.

Statements	Yes	No	Don't Know	Total
Establishment of private housing societies on agricultural land is responsible for rapid land use change.	204 (54.4)	127 (33.9)	44 (11.7)	375 (100.0)
Establishment of private educational institutions on agrarian land is the main cause for rapid land use change.	181 (48.3)	108 (28.8)	86 (22.9)	375 (100.0)
Private residential extension on agricultural land is the cause for rapid land use change in your area.	190 (58.4)	70 (18.7)	115 (30.7)	375 (100.0)
Establishment of private industries on agrarian land is the driving force for land transformation.	219 (58.4)	66 (17.6)	90 (24.0)	375 (100.0)
Installation of petrol and gas stations is the main reason for rapid land use change.	248 (66.1)	109 (29.1)	18 (4.8)	375 (100.0)
Relative of influential people by agrarian land in lower rates for private installation.	256 (68.3)	61 (16.3)	58 (15.5)	375 (100.0)
People prefer to build shopping mall instead of agricultural in the area.	193 (51.5)	125 (33.3)	57 (15.2)	375 (100.0)

Association between establishment of private interventions and loss of agricultural land

Table 3 the results showed that the association between establishments of private housing societies on agricultural land is responsible for rapid land use change was found highly significant ($P= 0.000$) and positive ($T^c = 0.151$) with loss of agricultural land. Similarly, the association between establishments of private educational institutions on agrarian land and loss of agricultural land found highly significant ($P= 0.000$) and positive ($T^c = 0.064$). In addition, the association between private residential extension on agricultural land is the cause for rapid land use change and loss of agricultural land found highly significant ($P= 0.000$) and positive ($T^c = 0.200$). Moreover, the association between establishments of private industries on agrarian land is the driving force for land transformation and loss of agricultural land was found highly significant ($P= 0.000$) and positive ($T^c = 0.115$). Likewise, the association between installation of petrol and gas stations is the main reason for rapid land use change and loss of agricultural land found highly significant ($P= 0.000$) and positive ($T^c = 0.192$). Similarly, the association between people prefer to build shopping mall instead of agricultural activities in the area and loss of agricultural land found highly significant ($P= 0.000$) and positive ($T^c = 0.049$). Like the developed countries the extension of private housing societies is also in progress in under developed and less develop countries. It was found that private housing societies utilize the agriculture land by developing institutional infrastructure as well as small level industries and markets within the housing societies that resulted in the loss of agriculture land. Similarly, Alig et, all (2004) finds significant relation between private intervention and loss of agricultural land. The study was conducted in Sindh Province under heading farmers perception land use change and concluded that various factors i.e private housing societies, residential areas as well as private commercial activities and especially, private residential areas and other commercial activities affects agricultural land loss in the study area.

Table 3 Association between establishment of private interventions and loss of agricultural land

Statements	Indexed Dependent Variable	Statistics
Establishment of private housing societies on agricultural land is responsible for rapid land use change.	Loss of Agricultural land	$x^2 = 121.906$ P = 0.000 $T^c = 0.151$
Establishment of private educational institutions on agrarian land is the main cause for rapid land use change.	Loss of Agricultural land	$x^2 = 73.061$ P = 0.000 $T^c = 0.064$
Private residential extension on agricultural land is the cause for rapid land use change in your area.	Loss of Agricultural land	$x^2 = 183.526$ P = 0.000 $T^c = 0.200$
Establishment of private industries on agrarian land is the driving force for land transformation.	Loss of Agricultural land	$x^2 = 128.377$ P = 0.000 $T^c = 0.115$
Installation of petrol and gas stations is the main reason for rapid land use change.	Loss of Agricultural land	$x^2 = 157.160$ P = 0.000 $T^c = 0.192$
Relative of influential people by agrarian land in lower rates for private installation.	Loss of Agricultural land	$x^2 = 118.080$ P = 0.000 $T^c = 0.175$
People prefer to build shopping mall instead of agricultural activities in the area.	Loss of Agricultural land	$x^2 = 155.901$ P = 0.000 $T^c = 0.049$

Conclusions and recommendations

The agriculture land transformation is on peak almost in every part of the world. In Pakistan specifically in the target area it has been observed that the agriculture land is transformed rapidly for different purposes. For this purpose the present study was conducted to examine the role of private interventions in agricultural land conversion. It was concluded from the study findings that the major factors associated with transformation of agriculture land was establishments of private housing societies on agricultural land, establishments of private educational institutions, private residential extension on agricultural land, establishments of private industries, installation of petrol and gas stations on agricultural land and building shopping malls instead of promoting agricultural activities in the area caused loss of agricultural land. By creating a complete planning law with a sufficient economic framework, adequate commercial conversion regulations, and a proper enforcement mechanism, the commercial conversion of land uses can be made sustainable. A plan should be in place to protect agricultural land. This tactic serves its purpose practically in addition to being written as the law. The fertility of the soil is taken into account in the rule when determining whether a particular piece of land can be transferred or not. Land function transfer practices that are based on practical considerations for industrial or personal necessity, material source, location of the company, transportation access, human resources, and power plants should not be used; instead, they should be based on factors such as the fertility of the land that should be used for the people.

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