zef
Center for
Development Research
University of Bonn

Working Paper 173

Gashaw Desalegn and Seid Nuru Ali

Review of the Impact of Productive Safety Net Program (PSNP) on Rural Welfare in Ethiopia

ISSN 1864-6638 Bonn, October 2018

ZEF Working Paper Series, ISSN 1864-6638
Center for Development Research, University of Bonn
Editors: Christian Borgemeister, Joachim von Braun, Manfred Denich, Till Stellmacher
and Eva Youkhana

Authors' addresses

Gashaw Desalegn
Ethiopian Economic Policy Research Institute/Ethiopian Economic Association (EERPI/EEA)
Str. CMC
Addis Ababa, Ethiopia
Tel. 00251 (0)922 777 339; Fax 0116453200
E-mail: gashawd1@gmail.com
www.eea.org

Dr. Seid Nuru Ali
Ethiopian Economic Policy Research Institute/Ethiopian Economic Association (EERPI/EEA)
Str. CMC
Addis Ababa, Ethiopia
Tel. 00251 (0)921 418 606; Fax 0116453200
E-mail: seidnali@yahoo.com
www.eea.org

Review of the Impact of Productive Safety Net Program (PSNP) on Rural Welfare in Ethiopia

Gashaw Desalegn and Seid Nuru Ali

Abstract

This article reviews the empirical literature on the impact of the Productive Safety Net Program (PSNP) on different welfare outcomes of rural households in Ethiopia. The main finding of the review is that the PSNP had in general positive impacts on some attributes. PSNP has been found to have positive impacts on the food security of households, increasing crop yield and households' income. It has also been found to impact welfare in the form of improved health and school attendance, higher rates of insurance uptake, and improved cognitive skills in children.

However, there is scant evidence on how much PSNP has protected or mitigated the possible deterioration in the purchasing power of beneficiaries after shocks such as drought and food price spikes. There is one exception to this literature gap, which showed that PSNP had a role in mitigating the adverse impact of inflation on the cognitive skills of children.

In the face of declining land to labour ratio, increasing population, changing climate and environmental challenges, an important issue that needs to be addressed through research is the impact of PSNP on the longer-term perspective of agricultural transformation in Ethiopia. Furthermore, an implicit assumption in almost all major studies in the country in relation to social protection interventions such as PSNP is that, rural agricultural households can make a better livelihood within the framework of agriculture. A process of rural transformation requires engagement of households in side-line activities such as cottage industry, small scale manufacturing and services activities. Investigating the role of PSNP in this regard might be useful.

Keywords: productive safety nets programs, Ethiopia, welfare, food and nutrition security, price shocks

JEL Classification: H5, H7, I38

1 Background

Agriculture is the country's largest economic sector, contributing about 39 percent of the country's GDP (EEA, 2016) and employing 73 percent of the working population (CSA, 2010). Production systems are dominated by rain-fed smallholder farming with little mechanization. Subsistence mixed farming with crop cultivation and livestock husbandry is practiced on most farms. The high dependency of the Ethiopian agriculture on good rainfall conditions means that, the onset, duration, amount and distribution of the rainfall determines the performance of the agriculture sector and the economy of the country in general (Berhanu & Befekadu, 2000; Devereux & Sussex, 2000). More than 95 per cent of the country's agricultural output is generated by subsistence farmers who, on average, own less than 1 hectare of cultivated land with poor soil fertility as a result of continuous cropping and little input of nutrients to replace removal with harvest(Devereux & Sussex, 2000).

Cognizant of the fact that the agricultural sector is the backbone of the economy in terms of employment, its contribution to GDP and the main source of foreign currency, the Governments of Ethiopia over different period gave due emphases in their national policies, plans and programs, to the agricultural sector and rural development (Berhanu & Befekadu, 2000; and Drechsler and Soer 2016). Despite the various measures taken by governments of Ethiopia to transform the agricultural sector, food production in Ethiopia is highly variable and unpredictable, mainly due to erratic weather, which has triggered famines for centuries.

Famine and hunger - due to drought and other natural and man-made hazards - are the most catastrophic hazards causing widespread suffering in Ethiopia. The most recent drought episodes occurred in 1972-73, 1984-85, 1993-94, 1999-2000, 2002-2003, and 2014-2016. The first two resulted in serious damage in terms of loss of lives and livelihoods, due to a lack of appropriate preparedness and an inadequate disaster management system that was not capable of properly managing the effects of disaster. Drought associates with loss of harvest and livestock. Its impact is very high in terms economic costs and it drags back the speed of lifting millions of people out of poverty (Devereux & Sussex, 2000; Drechsler & Soer, 2016).

In the previous decade, the country has made different efforts to increase the performance of the agricultural sector by taking different measures such as using modern inputs - fertilizer and improved seeds-putting in place extension services. As a result, agricultural production on average grew by 6.6% during 2009 to 2014. Over the past decade alone, cereal production has more than doubled to nearly 20 million tons, mainly as the result of the expansion of cultivation land, increased productivity due to favourable rains, increased use of fertilizer and improved seeds, and lower impact of pests and diseases (CSA, 2013).

Ethiopia has also made advances in agricultural production and food security. According to Global Hunger Index reported by IFPRI Ethiopia is among the top seven countries that have recorded significant progress in reducing hunger. The country reported to have reduced its hunger index from 42.2% to 28.7% between 1999 and 2011 (Von Grebmer et al., 2012). Stunting prevalence decreased from about 58% in 2000 to about 44% in 2011 (CSA, 2011). The percentage of the population under the national poverty line has fallen from 44.2% in 1999 to 29.6% in 2010, with the rural poverty rate falling from 45.4% to 30.4% over the same period (Anderson & Elisabeth, 2015).

Both Government of Ethiopia and donors have immense contribution in strengthening Ethiopia's agricultural resilience, contributing to a reduction in the number of Ethiopians threatened with starvation. The decline in poverty and malnutrition can be attributed to a number of factors including production and marketing interventions in the agriculture sector (EEA, 2016).

Nevertheless, Ethiopia remains vulnerable to a range of shocks and stresses that could undermine the impressive progress made in poverty reduction. The country remains one of the world’s most food insecure countries, with all key dimensions of food security indicators.

Despite the achievements in increasing crop production by about 9 percent between 2004 and 2014, the sector still fails to resist drought shocks. This implies there is little transformation of the sector. In rural Ethiopia only 12 percent of the households have a formal financial account (CSA, 2016). Household asset and savings are kept in the form of livestock and grain as there is limited access to or preference for financial institutions (EEA, 2016).

Despite the frequent droughts that occurred in Ethiopia over the last two decades, there were little or no incidences in which drought translated into famine and loss of lives. Ethiopia has developed the institutional capacity to deal with the hazards of shocks. In particular, the country established an early warning system that predicts and assesses the number of potentially vulnerable people and early action can be taken accordingly. While calls for donors during drought stress are still operational, a more durable system called the productive safety net program (PSNP) has been in place since 2005. It has the purpose of supporting vulnerable rural households with cash transfers or equivalent food transfer and/or a combination of both in return for their engagement in infrastructural development. In 2015, PSNP provided assistance to about 8 million households with a status of chronic food insecurity. According (Drechsler & Soer, 2016) about 82 percent of the beneficiaries participated in public work activities while 18 percent of them (1.4 million) obtained direct support. Only some 18 per cent of beneficiaries obtain a direct hand out under severe conditions of risk.

2 Overview of Food Security Programs in Ethiopia

Food insecurity is a situation which occurs in individuals, households or nation level that has neither physical nor economical access to the nourishment they need. In particular, food insecurity includes low food intake, variable access to food, and vulnerability- livelihood strategy that generates adequate food in good times but is not resilient against shocks. These outcomes correspond broadly to chronic, cyclical or seasonal, and transitory food insecurity, and all are endemic in Ethiopia (Devereux & Sussex, 2000).

Ethiopia has been a net importer of food. It also secures aid from international donor community in particular during times of severe drought. Although food aid is a standard response to transitory food insecurity (e.g. Drought emergencies), in Ethiopia it had been an institutionalized response to chronic food insecurity until 2005.

Food insecurity problem in Ethiopian is a very complex concept to be addressed. All major manifestations of food insecurity that is chronic, seasonal and transitory food insecurity are persistent in Ethiopia for more than half a century. Though the causes are many, different researchers agreed on drought to remain one of the key drivers of food insecurity in Ethiopia. Food insecurity during drought shocks is compounded by the rise and volatility in grain prices. Since 1950, the country experienced more than twelve drought-induced and food security crises.

From table 1, it is fair to conclude that in every two or three years Ethiopia faces one drought year that leads to huge food crises and loss of millions of livestock. Drought shocks prior to the 1990s have also claimed human lives. However, the drought that occurred in the year 2015/16 is the strongest in the history of the country (Mohamed, 2017). Nevertheless, strong institutional capabilities designed to deal with the risks of such shocks in the form of early warning system and early responses highly minimized the probability of famine and loss of human lives.

Tab 1 Chronology of drought-related food security crises in Ethiopia

Year of event	Major relative incidences
1953	Food security crisis in Wollo and Tigray. Raya Azebo is the most vulnerable from Tigray.
1957-58	Food security crisis in Tigray, Wollo, and south-central Shewa. About 1 million farmers in Tigray might have been affected, with about 100,000 being displaced.
1962-66	Many parts of the northeastern Ethiopia suffered from droughts and Food security crisis. Tigray and Wollo were severely hit.
1973-74	This was one of the most significant food security crises which affected parts of eastern Harare, SNNPR and the Bale lowlands. About 100,000 to 200,000 people died as a result of this extensive crisis.
1977-78	Most parts of the Wollo were severely hit by food security crisis owing to erratic rainfall, pest damage, and frost actions. About 500,000 farmers were affected.
1984-85	This was the most serious one by affecting over eight million people and causing the death of one million Ethiopian's. Most parts of Ethiopia including relatively food secure areas like Wolayta, Kambata and Hadiya were affected by severe food insecurity. Drought and crop diseases were the main drivers of the food security crisis in this case.
1987-88	Tigray, Wollo and Gonder were severely affected due to drought and civil wars.
1990-92	Rain failure and regional conflicts resulted in approximately 4,000,000 people being affected.
1993-94	Widespread food insecurity, but few deaths or cases of displacement were reported because of early responses by the government and international aid organizations.
1999-2000	Three years of successive poor rains in Somali region was led to 100,000 deaths of citizens.
2003-04	Over 13 million people affected, but the response mitigated the worst potential outcomes.
2008-09	Almost 3 million people were affected in which majority from pastoral areas of the country.
2011-13	Severe food security crisis occurred in the south-eastern lowlands. In pastoralist area of Afar, Somali and Borana (Oromiya) the quality and quantity of livestock was decreased.
2015-16	Consecutive failure of two rainy seasons has had profound impact on the lives and livelihoods of millions. Due to El Niño drought more than 27 million people become food insecure and total population of 18.1 million people required food assistance in 2016 and totally over 40 percent of Ethiopian population have been affected. This was the strongest drought that has been faced in Ethiopian history. But numbers of deaths due this shock were not reported.

Source: Hill and Porter, Anderson et al, 2015

Ethiopia has been taking different measures to overcome food insecurity. Three government regimes have tried a resettlement of vulnerable rural households, particularly from the northern part of Ethiopia to mostly lowlands of western Ethiopia. Relocating farmers to a new resource base was, for example seen as a means of rehabilitating the victims of famine during the Derge regime. However, gradually the then government considered resettling as the cheapest solution to food insecurity.

Food-for-Work (FFW) Program had started during the Derge regime after the great famine of 1984-85. According to Arega (2012) the strength of the FFW program is that it allows household members to work for their benefits rather than receiving handouts. The beneficiaries receive the food aid in return for a community work such as construction works on road, clinics, school, and soil conservation.

Despite all these efforts, food insecurity, particularly chronic food insecurity has been on the rise. Even in recent years, millions of people were unable to feed themselves even in years without drought. As a result, there was a need to provide long-term assistance to such households. To this end, the government of Ethiopia in collaboration with the donor partners launched Food Security Programme (FSP) in 2003.

The FSP was funded by the Government of Ethiopia (GoE) and development partners and implemented, mostly through government administrative channels in Amhara, Oromia, Tigray and Southern Nations, Nationalities and Peoples Region (SNNP). Harari and Dire Dawa were added to the program in 2005. FSP is a special arrangement which focuses on addressing vulnerability, which exists in different parts of the country. During the first two phases (2005-2009), the FSP comprised three complementary components: the Productive Safety Net Program, the Other Food Security Program (OFSP), and the Land Access Programme (resettlement).

The GoE and Development Partners reviewed the successes and lessons learned from past implementation and designed the 2010-2014 phase of the FSP, which comprise four components: Resettlement program, Productive Safety Net program (PSNP), Household Asset Building Program (HABP) and Complimentary Community Investment (CCI).

The main objective of the resettlement program is to enable chronically food insecure households attain food security through improved access to land. Each settler household is guaranteed the assistance of packages that includes provision of fertile farmlands, seed, oxen, hand tools, and food ration for the first eight months. The settlers also provided access to essential infrastructures such as clean water, health post, feeder roads.

The objective of the PSNP is to provide transfers to the food-insecure population in chronically food-insecure districts in a way that prevents asset depletion at the household level and creates asset at the community level. The second purpose of the PSNP is to help bridge the income gap of the chronically food-insecure households. The PSNP has two components: labor-intensive public works and direct support. Chronically food-insecure households are selected using a combination of administrative and community targeting systems to either participate in public works or receive direct support. The able-bodied are engaged in public works, for which they are paid a minimum amount of money, whereas labor-poor households (those that are unable to participate in manual labor due to reasons such as old age, disability or having children who are too young or without parents) are given the same sum of money while being exempted from public works. A key feature of the PSNP is its household focus.

The Household Asset Building Program (HABP) is one of the four components of the Food Security Program, and it contributes to the achievement of the FSP's expected outcome of improved food securities of households living in chronically food insecure areas. The intervention using HABP includes introduction of appropriate technologies which help improve production and productivity and Preparation and dissemination of different menu of technological packages through the extension service packages. The packages comprise of provision of improved inputs to increase livestock's and crop production, Moisture conservation and utilization, Natural resource development, Trainings, Support for additional income generating activities, and Provision of market information. HABP bridges the transition from graduating from PSNP to complete food security.

CCI is an intervention which is designed to create community assets and complement household investment through creating an enabling environment. As the food insecure households are resource poor, living in drought – prone and degraded areas, focusing on crop and livestock production alone may not entirely solve the problem of food insecurity. For these areas income diversification through non –agricultural activities is important. To this effect, the food security program considers complementary income sources in non– farm activities.

The cornerstone of the FSP in Ethiopia is the Productive Safety Net Programme (PSNP). This works through cash or in kind transfer to chronically food insecure households through participation in large-scale public works. The other additional programmes under the FSP such as HABP and CCI are designed to complement the PSNP by providing additional products or services designed to improve agricultural productivity or support microenterprise development.

Income transfer helps chronically food insecure households by increasing short run consumption, where as additional investment such as investing to enhance agricultural productivity may improve the long run consumption of households. In Ethiopia PSNP is targeted to short-term food security needs while HABP and other programs are aimed longer term sustainable improvements in food security (Hoddinott, Berhane, Gilligan, Kumar, & Seyoum Taffesse, 2012).

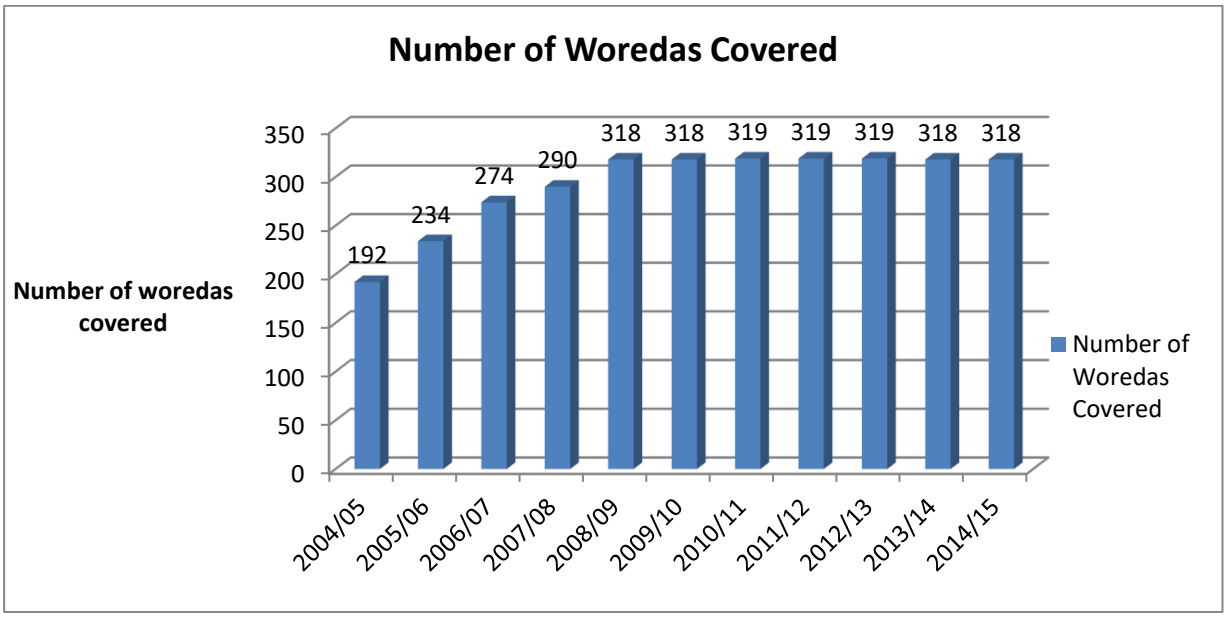
3 Productive Safety Net Program (PSNP) and Its Impacts

3.1 Trends of number of beneficiaries, financing and graduates

Safety Net Program in Ethiopia is the second largest social security program in Africa after South Africa. It covers almost more than 10 percent of the total population. The budget for PSNP is US$1.5 billion for the first phase (2005-09) and US$2.1 billion for the period 2010-14 (World Bank 2017). Since its inception the number of beneficiaries has been increasing over time from 4 million in 2004/5 to over 8 million in 2015/16.

The coordinated effort of PSNP to fight food insecurity in Ethiopia has two components: Social Cash Transfer (SCT) programs which provide payments to poor and vulnerable households, and payments for Labor on Public Works projects. In 2005 the PSNP program started with 192 chronically food insecure Woredas (Ethiopian districts). However, the coverage grew to 318 *Woredas* as of 2015.Out of the total chronically food insecure households, 40 per cent receive food and 60 per cent receive cash (Berhane, Hoddinott, Kumar, & Margolies, 2015).

Figure 1: Trends in Number of Beneficiaries *Woredas* of the PSNP

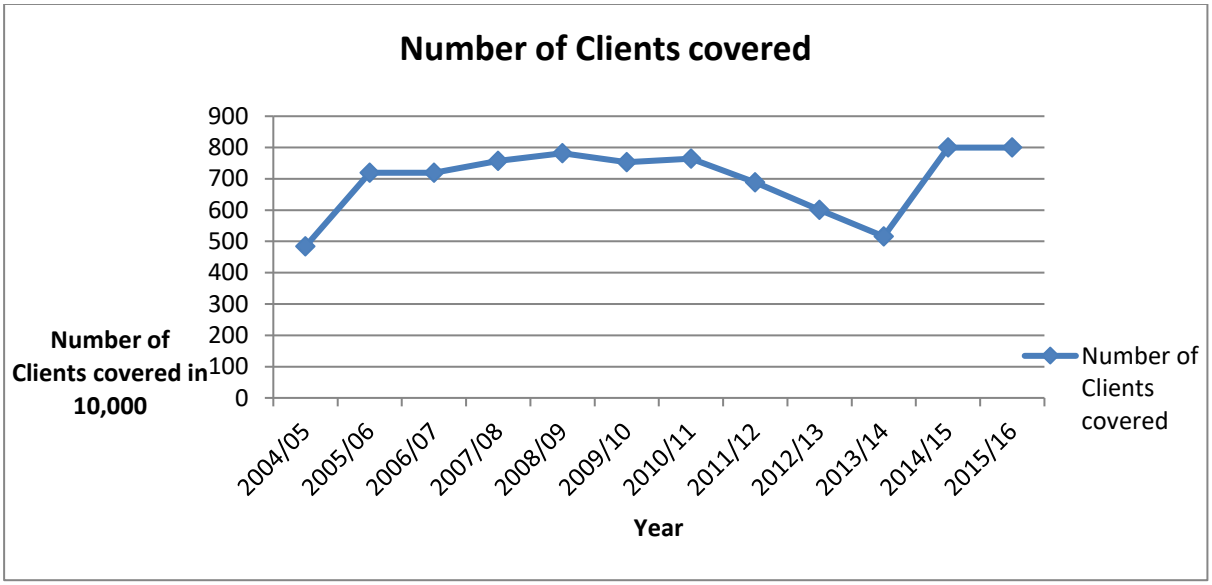


Source: MoA, 2015/16

The PSNP provided food and/or cash transfers to food insecure households in chronically food insecure woredas (those receiving food aid annually prior to 2005) in exchange for labour-intensive public works, while labor-poor households received unconditional “direct support” transfers. The public works component, which covered approximately 80% of programme participants, focused on the implementation of soil and water conservation measures and the development of community assets such as roads, water infrastructure, schools, and clinics. The OFSP provided productive asset packages on credit in order to build household assets and enable graduation from the PSNP as well as investments in socio-economic infrastructure (FDRE, 2014).

The first component, PSNP, built on the successes and lessons learned of the previous phase to improve the program, by expanding into two new regions (Somali and Afar); improving the timeliness of transfers; enhancing the quality of public works; and shifting increasingly to cash transfers. The number of beneficiaries in 2005 was 4.8 million. However, the numbers steadily grew and reached twofold in 2015. According to USAID estimates, the number of chronically food insecure population in Ethiopia has increased to 15 million during the recent drought of 2016 and 2017.

Figure 2: Trends in Number of beneficiaries of PSNP

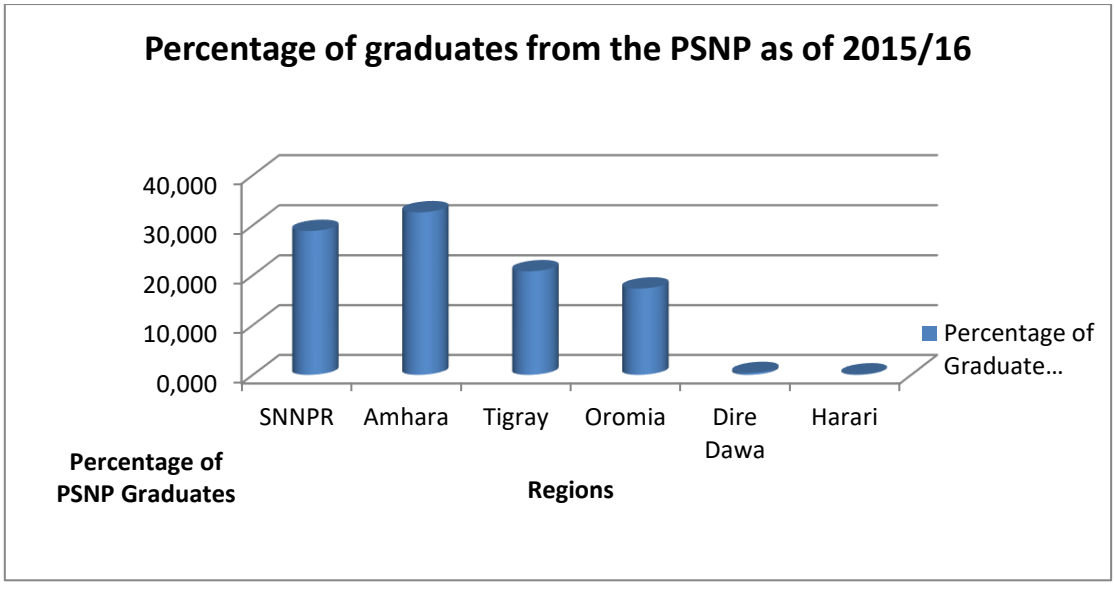


Source: MoA, 2015/16

Productive Safety Net Program beneficiaries who have received regular transfers and complementary interventions throughout the program period will be expected to graduate out of dependency on external support, except during food crises(Slater, Ashley, Tefera, Buta, & Esubalew, 2006).

Graduation of Productive Safety Net Program is the ultimate goal of the program and will result in the reduction of the number of households requiring external food aid and assistance. Once assets of a household is built and linked to other income generating programs the household must graduate from the PSNP. Figure 3 show number of households graduated from the PSNP as of 2015. Amhara and SNNPR region has the highest graduates from the program.

Figure 3: Percentage of PSNP graduates in various regions as of 2015.



Source: MoA, 2015/16

3.2 Impacts of PSNP

A number of studies have been conducted on the impacts of PSNP on certain outcomes such as, enhancing community-level infrastructure and contributing to environmental transformation. Some studies investigated impacts of PSNP at the household level; whether PSNP has helped household in improving food security, increased asset creation and protection, increased utilization of education and health services and improved agricultural productivity

A study by Gilligan, Hoddinott, & Taffesse(2008) using propensity score matching techniques is the earlier comprehensive study that was conducted 18 month after PSNP was operational. The study investigated the impact of PSNP on some outcome such as food security, and asset building. The study found little impact of the PSNP on the specific outcomes due in part to transfer levels that fell far below program targets. Beneficiaries who at least received half of the intended transfer have shown a significant improvement in food security by some measures. However, the result is different for a household who had access to both PSNP and other packages such as agricultural support. These households were more likely to be food secure, as they could borrow money for productive purposes, use improved agricultural technologies, and operate their own nonfarm business activities.

Two methodological caveats are worth mentioning in the paper by Gilligan et al. (2008). First, participation in the PSNP is not random. Usually, the most vulnerable groups are selected to be legible to the PSNP. Thus, comparisons with non-participants using propensity score matching may still suffer from selection bias as differences between participants and non-participants may be attributed to unobserved factors such as ability which is expected to be correlated with covariates used to derive the propensity scores of the two groups. Second, a household is expected to have better intervention outcomes when it participates in both the PSNP and the OFSP rather than in the PSNP alone. The study did not make clear if the better outcomes are attributed to the joint intervention under the two categories of programs (supplementary programs) or exclusively due to intervention in the form of OFSP.

Moreover, the result showed that a decline in asset holding was not observed among the treated groups after intervention, while asset holding of the non-participants has significantly increased. The fact that asset of treated group did not decrease over the period is considered to be consistent with one of the key objectives of PSNP. Nevertheless, two important conclusions can be drawn from the result. Primarily, the fact that the asset holdings of non-participants has increased even without participating in the PSNP program serves as evidence of the inherent initial difference between the treated and control groups. Second, a static asset holding position among participants may imply that PSNP helped bridge consumption, which would have been achieved by depletion of assets. If the impact of the PSNP is sustainable, the program would be expected to positively affect the productive capabilities of participants, which could manifest itself in the form of asset growth.

Later work by Hoddinott et al. (2012) attempted to explicitly address the relative importance of the dual introduction of PSNP and OFSP (later replaced by Household Asset Building Programme - HABP) to participants of the PSNP. In that setting, households who participated for five years in PSNP and at the same time received OFSP/HABP transfers were found to have had significant higher agricultural yield than OFSP/HABP participants. Participants in only PSNP had no advantage in the increased agricultural input use or productively. The authors claimed to have circumvented the potential problem of selection bias by using dose-response models by exploiting the significant level of variation in the duration of participation in the PSNP over five years. Nonetheless, while redefining the population in such a way that participants in the PSNP alone could be compared with participants in both longer period PSNP and OFSP/HABP in terms of the impact of PSNP on productivity is in itself interesting, the use of dose response model may not resolve the issue of selection problem. The result shows that 'high dose' participants in PSNP who received transfers under the OFSP/HABP did not have higher yields than OFSP/HABP non-beneficiaries with low participation in the PSNP. This may imply that there is still unobserved heterogeneity issue that uniquely characterized the participants. Future studies need to either address directly the potential self- selection problem or redefine the population

of interest in a panel data framework probably excluding non-participants which are usually presumed to have been better off.

A general equilibrium impact assessment of PSNP is made by Filipski et al. (2016). This study is very comprehensive. At the first stage, a household impact analysis (of PSNP) is made to determine whether it has impacted the beneficiaries in a certain way and non-beneficiaries as well. Then, the study was extended to analysing the impact of the PSNP on local economy as a whole. Finally, a computable general equilibrium or CGE modelling was applied to see the impact of PSNP on the national economy.

The study reported a 2.8 percent average increase in grain yields annually as a result of the intervention in the zones in which a Soil and Water Conservation (SWC) project was implemented. The program has a multiplier effect of up to 2.4 Ethiopian Birr (ETB) per ETB transferred. However, the study documented that there was variation of multiplier across locals, and it includes both positive and negative spill overs for non-recipient households. Simulating the PSNP at the national scale with a CGE model, the study reported that while PSNP areas saw the largest income benefits in percentage terms (6 percent of household income), the rest of the country experiences real income benefits of up to 2 per cent, as a result of the PSNP's impacts on supply, demand, wages, and prices; and the program increases national value added by 0.99 per cent.

3.2.1 Impacts of PSNP On food security

A study by Gebrehiwot & Castilla (2017) reported that, increase in money received by households from PSNP transfers between 2012 and 2014 had no effect on household dietary diversity. Furthermore, participation in the PSNP was found to have no effect on child nutrition measured by height-forage or the probability of being stunted. However, the study reported a 13.4 percent increase in average daily calorie consumption per person in PSNP-beneficiary areas indicating that the program does help to reduce household food insecurity.

A handful of studies have investigated the impact of PSNP on food security and asset building. According to Mohamed (2017) and Gebresilassie (2013), PSNP has contributed to the food security of the households in protecting asset, decreasing the rate of migration, increasing credit accessibility and improving productivity in watershed areas. A study by Gebrehiwot & Castilla 2017) reported that PSNP had a positive impact on number of trees planted but fail to find evidence that the PSNP protects livestock in times of shock.

3.2.2 Health outcome (child nutrition)

A study by (Berhane et al. (2015) found some evidence that PSNP had impacts on schooling and child labor. In 2008, when PSNP payments were low relative to work requirements, participating in the PSNP lowered school attainments for both boys and girls and increased child labor on family farms. As PSNP payments increased relative to PSNP work requirements – especially in 2012 – these adverse outcomes were reversed. In 2012, the PSNP increased girls' school attendances between 6 and 14 percent (depending on the age of the child), improved schooling efficiency by 10 to 20 percent and reduced boys' labour. This study does not found evidence that the PSNP reduces chronic or acute malnutrition. They speculate that child diet quality is poor and most mothers' had not had contact with health extension workers.

A study by Shigute et al. (2017) indicates that participating in the PSNP increases the probability of Community Based Health Insurance (CBHI) uptake by 24 percentage points and enhances scheme retention by 10 percentage points. Using a panel data spanning from 2002 to 2013 Marta Favara (2016) found that children in households that graduated from PSNP had higher cognitive achievement than those remaining in the programme (PSNP). Using child-level panel data from rural areas of Ethiopia, Berhane et al. (2016) analysed effects of both economic and non-economic shocks on child cognition skills measured after the early childhood age window. The study applied difference-in-differences analysis after controlling for child, household and village-level baseline characteristics. The study found

that exposure to these shocks significantly decreased child cognitive skills. However, the PSNP mitigated the reduction in cognitive skills by 0.18 standard deviations.

4 The PNSP and Price Shocks

The relation between PSNP and price is not straight forward. PSNP is operational in two different forms in Ethiopia: food and cash transfers. The cash or food debate is still continuing. However, decisions are made based on availability of resources rather than objective assessment (Sabates-Wheeler & Devereux, 2010).The impact of the PSNP on prices depends on the method of transfers made. Food aid is criticised for being expensive to ship, store, distribute and competing in the local food market unfairly and that may trigger future reduction in food production. On contrary cash transfer is seen as cost-efficient way to deliver, and may help to increase agricultural production (Creti and Jaspars, 2005, cited in Sabates-Wheeler & Devereux 2010). For detail list of advantage and disadvantage of cash and food transfer see Sabates-Wheeler and Devereux (2010).

4.1 Cash transfer may cause food inflation

With poorly integrate and thin market like in Ethiopia, where the majority of the PSNP beneficiaries' live, cash transfers have different links with food inflation. First, cash injection to the local economy via the PSNP beneficiaries will increase price of local market creating imbalance between demand and supply. Thus, cash transfer can fuel local price and endanger the purchasing power of the beneficiaries and can contribute to food insecurity situations. A study by Sabates-Wheeler & Devereux (2010) has documented the evidence that cash transfer in Ethiopia had an inflationary impact.

4.2 Food transfer may depress local prices

If the transfer is made thorough food it increases supply of food. This will also create a boost in the market and depress prices. This will in turn reduce production of agricultural staples and compromise food security.

An important policy implication of the two scenarios is that the decision to choose the particular mode of delivery in the PSNP program to maintain a stable price is to understand the nature of supply in the locality and the size of the beneficiary. During periods of major crop failure with either limited agricultural surplus in neighboring Woredas or little market connection to surplus producing regions, transfers in kind are better than cash transfers. When food insecurity is limited to some households or when shocks are localized with surplus production in the vicinity, cash transfers tend to have better outcomes in terms of production and price stability.

4.3 Food price inflation and declining real value of PSNP cash transfers

Food price inflation can be occurred in different situation. The first case is seasonality. Food price is higher before harvest and lower after harvest. During the hunger period due to the increase in food price the real value of PSNP cash transfer will decreases unless an adjustment is made or cash transfer is indexed. In Ethiopia 80 percent of food produced is consumed on farm, and thus market supplies are limited and prices are highly volatile (Devereux & Sussex, 2000). Food price volatility undermines food security for the poor, who by definition are net food purchasers.

The seconded case is an increase in general inflation that can erode the real value of cash transfer and decrease the purchasing power of PSNP beneficiaries. The unprecedented rise of food prices in Ethiopia since mid-2007 is significant enough to compromise the real value of the PSNP cash transfer. Because rising food prices erode the purchasing power of un-indexed cash transfers, and the primary intention of PSNP cash transfers is to provide market access to food (Devereux & Sussex, 2000), a general price increase particularly grain price will jeopardize the purchasing power of beneficiaries' irrespective of whether the food items is locally produced or imported.

A general increase in prices affects net sellers and buyers of food differently. Filipski et al. (2016) indicated that general price raises hurt urban net buyers and benefited rural net sellers. The same study found that urban net sellers, such as businessmen, were not affected by price rises because they had price-controlling power. Public servants and wage earners were most affected by price rises. One of the surprising results by the same study was that coefficients on rural net buyers were insignificant. The study explained that even though they are not self-sufficient, rural net buyers benefit from a rise in prices of agricultural products because they are also producers. In this case, the terms of trade cancel each effect out and the impact of a food price increase on the welfare of rural net buyers remains insignificant.

However, the impact of PSNP in mitigating the price and other shocks relative to non-beneficiaries' should be seen in a different approach. Though there is a scanty literature on the impact of PSNP intervention on the welfare of the rural poor through mitigating price volatility, some studies attempted to show the counter balancing or mitigating the adverse impact of price and other shocks on food security. For example, Berhane et al. (2016) reported that, food price inflation undercut cognitive skills by more than one standard deviations (0.98 due to cereals price inflation and 0.47 due to inflation in meat prices). On the other hand, the safety net program mitigated the reduction in cognitive skills by 0.18 standard deviations. If these studies are robust, by implication, it can be argued that one plausible avenue through which PSNP interventions could affect the welfare of beneficiaries is reduction of price volatility. Cash transfers through the PSNP scheme may help beneficiaries to smooth out consumption by purchasing staples during harvesting seasons.

5 Conclusion

This article reviews the efforts of addressing food insecurity issues that emanate from adverse shocks such as drought in Ethiopia. In particular, it reviews the operation and impact of the Productive Safety Net Program (PSNP) in the country. When the government of Ethiopia in collaboration with the donor community devised the PSNP program in Ethiopia, it was a great departure from the usual food relief and aid provided at time of emergency. Many criticise the unconditional transfer in time of emergency on some grounds: the first line of argument against free aid was that it tends to create aid dependency; second the food aid only helps the beneficiaries to survive; it does not protect the depletion of the household asset. It was argued that unless a proper food security program is implemented like soil and water conservation and enhancing agricultural productivity along developing non-farm sectors the food aid will not help in the longrun. As a result, early food for work programs were upgraded to a more formal and wider scheme called the productive safety net program (PSNP) in 2005.

Some studies indicate that there is an increasing trend of graduates and the number of beneficiary households of PSNP in Ethiopia. Though there are significant numbers of graduate from the PSNP, the number of beneficiaries constantly increases over time at a rate greater than the graduates.

Many authors have attempted to investigate the impact of PSNP on different economic outcome such as asset building capacity of beneficiaries', food security of households and other health and health related outcomes. Some have found a significant result in their study. For example, Gilligan et al. (2008) found food aid in combination with other components like credit and agricultural packages have significant impact in improving food security of household. A more robust finding by Filipski et al. (2016), claims that a 2.8 percent increase in grain yields and an increase in income of household by 6 per cent. The same study claimed to have found that PSNP have increased value added at national level by 0.99 per cent.

Studies of an impact evaluation of PSNP on food security reported some promising results. Gebrehiwot & Castilla (2017) reported 13.4 percent increase in average daily calorie consumption per person in PSNP beneficiary households. Other studies (Berhane et al., 2015; Mohamed, 2017; Shigute et al., 2017) investigated the impact of PSNP on different health and other outcomes of beneficiaries such as schooling and child labour, CBHI uptake, and child cognition skills.

In this study analysis of relation between PSNP and price shocks has been reviewed. The impact of PSNP on the welfare of beneficiaries via price mechanisms is not straight forward. The impact of PSNP on price inflation depends on whether the transfer is made by cash or food and the situation of food market. When drought shocks are widespread with limited supply of food in the market, the injection of cash transfer is expected to increase price exacerbating the impact of shocks. In such situation, payments in kind, such as grain tend to stabilize prices. On the other hand, when shocks are limited to, pocket areas or household levels in the presence of enough supply of staples in the market, introduction of cash payments tend to have a stabilizing effect rather than payments in kind which tend to depress agricultural production through its dampening effect on agricultural prices. PSNP graduates are surplus producers therefore they will benefit from a price rise on agricultural products.

One of the objectives of PSNP is to protect beneficiaries from different shocks such as price and drought. However, there is scanty evidence that has investigated by how much PSNP has protected or mitigated the purchasing power of beneficiaries from such shocks. There is one exception by(Berhane et al., 2016) that reported inflation cuts cognitive skills but PSNP have a mitigating impact. A future studies on the impact of PSNP on the welfare of rural household through mitigating price volatility need to consider comparing the various impacts of the program when implemented with payments in cash and in kind.

In the long-run, PSNP need to be upgraded or replaced with efforts of building rural capabilities that transforms rural agricultures such as harnessing water resources, replacing the hoe and the plough with modern agricultural tools, changing the mode of saving from grain to financial savings, mode of

asset formation from livestock to financial wealth. In the face of declining land to labour ratio, increasing population, changing climate and environmental challenges, the agricultural sector transformation accompanied by the overall economic transformation that aims at to move the rural population from hotspots of vulnerable agro-ecological zones should be pursued. Recently, the PSNP program has been extended to urban safety net program in which unemployed youth would be engaged in micro and small enterprises. This tends to augment the urban demand for food which in principle should be met with an increase in productivity in the agricultural sector.

An underlining (implicit) assumption in almost all major studies in the country in relation to social protection interventions such as PSNP is that rural agricultural households can make a better livelihood within the framework of agriculture. It might be interesting to propose that individuals are endowed differently in terms of modes of livelihood. The purpose of interventions such as PSNP might be geared towards creating and widening opportunities so that individuals could match their comparative advantage.

6 References:

Anderson, S., & Elisabeth, F. (2015). USAID Office of Food for Peace Food Security Country Framework for Ethiopia FY 2016–FY 2020. Washington, DC: Food Economy Group.

Arega, B. (2012). Productive Safety Nets Program and Household Level Graduation in Drought-Prone Areas of the Amhara Region of Ethiopia: A Case Study in Lay Gaint District. Ethiopian Journal of Environmental Studies and Management, 5(4), 604-612.

Berhane, G., Abay, M. H., & Woldehanna, T. (2016). Synopsis, Childhood shocks, safety nets and cognitive skills: Panel data evidence from rural Ethiopia: International Food Policy Research Institute (IFPRI).

Berhane, G., Hoddinott, J., Kumar, N., & Margolies, A. (2015). The impact of the Productive Safety Net Programme on schooling, child labour and the nutritional status of children in Ethiopia.

Berhanu, N., & Befekadu, D. (2000). Annual report on Ethiopian economy, vol. 1. Addis Ababa.

CSA, C. S. A. (2010). Population Statistics Abstract 2010.

CSA, C. S. A. (2011). Ethiopia Demographic and Health Survey 2011.

CSA, C. S. A. (2013). Area and Production of Major Crops. Report on Area and Crop Production forecast for Major Crops (For Private Peasant Holding, Meher Season.

CSA, C. S. A. (2016). Ethiopian Socio-Economic Survey

Devereux, S., & Sussex, I. (2000). Food insecurity in Ethiopia. Paper presented at the A DFID Ethiopia Seminar, London.

Drechsler, M., & Soer, W. (2016). Early Warning, Early Action. Policy Research Working Paper.

EEA. (2016). Report on the Ethiopian Economy.

FDRE. (2014). Productive Safety Net Programme 4. Addis ababa, Ethiopia: Minstry of Agriculture Disaster Risk Management and Food Security Sector.

Filipski, M., Taylor, J. E., Abegaz, G. A., Ferede, T., Taffesse, A. S., & Diao, X. (2016). General equilibrium impact assessment of the Productive Safety Net Program in Ethiopia.

Gebrehiwot, T., & Castilla, C. (2017). Do Safety Net Transfers Improve Household Diets and Reduce Undernutrition? Evidence from Rural Ethiopia.

Gebresilassie, Y. H. (2013). GRADUATION DETERMINANTS OF PRODUCTIVE SAFETY NET PROGRAM BENEFICIARY HOUSEHOLDS: A LOGISTIC ANALYSIS, TIGRAI-ETHIOPIA. European Journal of Business and Economics, 8(4).

Gilligan, D. O., Hoddinott, J., & Taffesse, A. S. (2008). An analysis of Ethiopia's Productive Safety Net Program and its linkages. Washington, DC: International Food Policy Research Institute.

Hoddinott, J., Berhane, G., Gilligan, D. O., Kumar, N., & Seyoum Taffesse, A. (2012). The impact of Ethiopia's Productive Safety Net Programme and related transfers on agricultural productivity. Journal of African Economies, 21(5), 761-786.

Marta Favara, C. P., Tassew Woldehanna (2016). Poor Social Protection? Impacts of Ethiopia's safety net on child cognitive achievement. Draft Paper.

Mohamed, A. A. (2017). Food Security Situation in Ethiopia: A Review Study. International Journal of Health Economics and Policy, 2(3), 86.

Sabates-Wheeler, R., & Devereux, S. (2010). Cash transfers and high food prices: Explaining outcomes on Ethiopia's Productive Safety Net Programme. Food Policy, 35(4), 274-285.

Shigute, Z., Mebratie, A. D., Sparrow, R., Yilma, Z., Alemu, G., & Bedi, A. S. (2017). Uptake of health insurance and the productive safety net program in rural Ethiopia. Social Science & Medicine, 176, 133-141.

Slater, R., Ashley, S., Tefera, M., Buta, M., & Esubalew, D. (2006). PSNP policy, programme and institutional linkages. ODI/IDL Group/Indak.

Von Grebmer, K., Olofinbiyi, T., Wiesmann, D., Fritschel, H., Badiane, O., Torero, M., . . . Rahall, J. (2012). Global hunger index 2012.

World Bank Group ET Productive Safety Nets Project 4 (PSNP 4) http://projects.worldbank.org/P146883?lang=en

ZEF Working Paper Series, ISSN 1864-6638
Center for Development Research, University of Bonn
Editors: Christian Borgemeister, Joachim von Braun, Manfred Denich, Till Stellmacher and Eva Youkhana

1. Evers, Hans-Dieter and Solvay Gerke (2005). Closing the Digital Divide: Southeast Asia's Path Towards a Knowledge Society.
2. Bhuiyan, Shajahan and Hans-Dieter Evers (2005). Social Capital and Sustainable Development: Theories and Concepts.
3. Schetter, Conrad (2005). Ethnicity and the Political Reconstruction of Afghanistan.
4. Kassahun, Samson (2005). Social Capital and Community Efficacy. In Poor Localities of Addis Ababa Ethiopia.
5. Fuest, Veronika (2005). Policies, Practices and Outcomes of Demand-oriented Community Water Supply in Ghana: The National Community Water and Sanitation Programme 1994 – 2004.
6. Menkhoff, Thomas and Hans-Dieter Evers (2005). Strategic Groups in a Knowledge Society: Knowledge Elites as Drivers of Biotechnology Development in Singapore.
7. Mollinga, Peter P. (2005). The Water Resources Policy Process in India: Centralisation, Polarisation and New Demands on Governance.
8. Evers, Hans-Dieter (2005). Wissen ist Macht: Experten als Strategische Gruppe.
8.a Evers, Hans-Dieter and Solvay Gerke (2005). Knowledge is Power: Experts as Strategic Group.
9. Fuest, Veronika (2005). Partnerschaft, Patronage oder Paternalismus? Eine empirische Analyse der Praxis universitärer Forschungskooperation mit Entwicklungsländern.
10. Laube, Wolfram (2005). Promise and Perils of Water Reform: Perspectives from Northern Ghana.
11. Mollinga, Peter P. (2004). Sleeping with the Enemy: Dichotomies and Polarisation in Indian Policy Debates on the Environmental and Social Effects of Irrigation.
12. Wall, Caleb (2006). Knowledge for Development: Local and External Knowledge in Development Research.
13. Laube, Wolfram and Eva Youkhana (2006). Cultural, Socio-Economic and Political Con-straints for Virtual Water Trade: Perspectives from the Volta Basin, West Africa.
14. Hornidge, Anna-Katharina (2006). Singapore: The Knowledge-Hub in the Straits of Malacca.
15. Evers, Hans-Dieter and Caleb Wall (2006). Knowledge Loss: Managing Local Knowledge in Rural Uzbekistan.
16. Youkhana, Eva; Lautze, J. and B. Barry (2006). Changing Interfaces in Volta Basin Water Management: Customary, National and Transboundary.
17. Evers, Hans-Dieter and Solvay Gerke (2006). The Strategic Importance of the Straits of Malacca for World Trade and Regional Development.
18. Hornidge, Anna-Katharina (2006). Defining Knowledge in Germany and Singapore: Do the Country-Specific Definitions of Knowledge Converge?
19. Mollinga, Peter M. (2007). Water Policy – Water Politics: Social Engineering and Strategic Action in Water Sector Reform.
20. Evers, Hans-Dieter and Anna-Katharina Hornidge (2007). Knowledge Hubs Along the Straits of Malacca.
21. Sultana, Nayeem (2007). Trans-National Identities, Modes of Networking and Integration in a Multi-Cultural Society. A Study of Migrant Bangladeshis in Peninsular Malaysia.
22. Yalcin, Resul and Peter M. Mollinga (2007). Institutional Transformation in Uzbekistan's Agricultural and Water Resources Administration: The Creation of a New Bureaucracy.
23. Menkhoff, T.; Loh, P. H. M.; Chua, S. B.; Evers, H.-D. and Chay Yue Wah (2007). Riau Vegetables for Singapore Consumers: A Collaborative Knowledge-Transfer Project Across the Straits of Malacca.
24. Evers, Hans-Dieter and Solvay Gerke (2007). Social and Cultural Dimensions of Market Expansion.
25. Obeng, G. Y.; Evers, H.-D.; Akuffo, F. O., Braimah, I. and A. Brew-Hammond (2007). Solar PV Rural Electrification and Energy-Poverty Assessment in Ghana: A Principal Component Analysis.

26. Eguavoen, Irit; E. Youkhana (2008). Small Towns Face Big Challenge. The Management of Piped Systems after the Water Sector Reform in Ghana.

27. Evers, Hans-Dieter (2008). Knowledge Hubs and Knowledge Clusters: Designing a Knowledge Architecture for Development

28. Ampomah, Ben Y.; Adjei, B. and E. Youkhana (2008). The Transboundary Water Resources Management Regime of the Volta Basin.

29. Saravanan.V.S.; McDonald, Geoffrey T. and Peter P. Mollinga (2008). Critical Review of Integrated Water Resources Management: Moving Beyond Polarised Discourse.

30. Laube, Wolfram; Awo, Martha and Benjamin Schraven (2008). Erratic Rains and Erratic Markets: Environmental change, economic globalisation and the expansion of shallow groundwater irrigation in West Africa.

31. Mollinga, Peter P. (2008). For a Political Sociology of Water Resources Management.

32. Hauck, Jennifer; Youkhana, Eva (2008). Histories of water and fisheries management in Northern Ghana.

33. Mollinga, Peter P. (2008). The Rational Organisation of Dissent. Boundary concepts, boundary objects and boundary settings in the interdisciplinary study of natural resources management.

34. Evers, Hans-Dieter; Gerke, Solvay (2009). Strategic Group Analysis.

35. Evers, Hans-Dieter; Benedikter, Simon (2009). Strategic Group Formation in the Mekong Delta - The Development of a Modern Hydraulic Society.

36. Obeng, George Yaw; Evers, Hans-Dieter (2009). Solar PV Rural Electrification and Energy-Poverty: A Review and Conceptual Framework With Reference to Ghana.

37. Scholtes, Fabian (2009). Analysing and explaining power in a capability perspective.

38. Eguavoen, Irit (2009). The Acquisition of Water Storage Facilities in the Abay River Basin, Ethiopia.

39. Hornidge, Anna-Katharina; Mehmood Ul Hassan; Mollinga, Peter P. (2009). 'Follow the Innovation' – A joint experimentation and learning approach to transdisciplinary innovation research.

40. Scholtes, Fabian (2009). How does moral knowledge matter in development practice, and how can it be researched?

41. Laube, Wolfram (2009). Creative Bureaucracy: Balancing power in irrigation administration in northern Ghana.

42. Laube, Wolfram (2009). Changing the Course of History? Implementing water reforms in Ghana and South Africa.

43. Scholtes, Fabian (2009). Status quo and prospects of smallholders in the Brazilian sugarcane and ethanol sector: Lessons for development and poverty reduction.

44. Evers, Hans-Dieter; Genschick, Sven; Schraven, Benjamin (2009). Constructing Epistemic Landscapes: Methods of GIS-Based Mapping.

45. Saravanan V.S. (2009). Integration of Policies in Framing Water Management Problem: Analysing Policy Processes using a Bayesian Network.

46. Saravanan V.S. (2009). Dancing to the Tune of Democracy: Agents Negotiating Power to Decentralise Water Management.

47. Huu, Pham Cong; Rhlers, Eckart; Saravanan, V. Subramanian (2009). Dyke System Planing: Theory and Practice in Can Tho City, Vietnam.

48. Evers, Hans-Dieter; Bauer, Tatjana (2009). Emerging Epistemic Landscapes: Knowledge Clusters in Ho Chi Minh City and the Mekong Delta.

49. Reis, Nadine; Mollinga, Peter P. (2009). Microcredit for Rural Water Supply and Sanitation in the Mekong Delta. Policy implementation between the needs for clean water and 'beautiful latrines'.

50. Gerke, Solvay; Ehlert, Judith (2009). Local Knowledge as Strategic Resource: Fishery in the Seasonal Floodplains of the Mekong Delta, Vietnam

51. Schraven, Benjamin; Eguavoen, Irit; Manske, Günther (2009). Doctoral degrees for capacity development: Results from a survey among African BiGS-DR alumni.

52. Nguyen, Loan (2010). Legal Framework of the Water Sector in Vietnam.

53. Nguyen, Loan (2010). Problems of Law Enforcement in Vietnam. The Case of Wastewater Management in Can Tho City.

54. Oberkircher, Lisa et al. (2010). Rethinking Water Management in Khorezm, Uzbekistan. Concepts and Recommendations.

55. Waibel, Gabi (2010). State Management in Transition: Understanding Water Resources Management in Vietnam.

56. Saravanan V.S.; Mollinga, Peter P. (2010). Water Pollution and Human Health. Transdisciplinary Research on Risk Governance in a Complex Society.

57. Vormoor, Klaus (2010). Water Engineering, Agricultural Development and Socio-Economic Trends in the Mekong Delta, Vietnam.

58. Hornidge, Anna-Katharina; Kurfürst, Sandra (2010). Envisioning the Future, Conceptualising Public Space. Hanoi and Singapore Negotiating Spaces for Negotiation.

59. Mollinga, Peter P. (2010). Transdisciplinary Method for Water Pollution and Human Health Research.

60. Youkhana, Eva (2010). Gender and the development of handicraft production in rural Yucatán/Mexico.

61. Naz, Farhat; Saravanan V. Subramanian (2010). Water Management across Space and Time in India.

62. Evers, Hans-Dieter; Nordin, Ramli, Nienkemoer, Pamela (2010). Knowledge Cluster Formation in Peninsular Malaysia: The Emergence of an Epistemic Landscape.

63. Mehmood Ul Hassan; Hornidge, Anna-Katharina (2010). 'Follow the Innovation' – The second year of a joint experimentation and learning approach to transdisciplinary research in Uzbekistan.

64. Mollinga, Peter P. (2010). Boundary concepts for interdisciplinary analysis of irrigation water management in South Asia.

65. Noelle-Karimi, Christine (2006). Village Institutions in the Perception of National and International Actors in Afghanistan. (**Amu Darya Project Working Paper No. 1**)

66. Kuzmits, Bernd (2006). Cross-bordering Water Management in Central Asia. (**Amu Darya Project Working Paper No. 2**)

67. Schetter, Conrad; Glassner, Rainer; Karokhail, Masood (2006). Understanding Local Violence. Security Arrangements in Kandahar, Kunduz and Paktia. (**Amu Darya Project Working Paper No. 3**)

68. Shah, Usman (2007). Livelihoods in the Asqalan and Sufi-Qarayateem Canal Irrigation Systems in the Kunduz River Basin. (**Amu Darya Project Working Paper No. 4**)

69. ter Steege, Bernie (2007). Infrastructure and Water Distribution in the Asqalan and Sufi-Qarayateem Canal Irrigation Systems in the Kunduz River Basin. (**Amu Darya Project Working Paper No. 5**)

70. Mielke, Katja (2007). On The Concept of 'Village' in Northeastern Afghanistan. Explorations from Kunduz Province. (**Amu Darya Project Working Paper No. 6**)

71. Mielke, Katja; Glassner, Rainer; Schetter, Conrad; Yarash, Nasratullah (2007). Local Governance in Warsaj and Farkhar Districts. (**Amu Darya Project Working Paper No. 7**)

72. Meininghaus, Esther (2007). Legal Pluralism in Afghanistan. (**Amu Darya Project Working Paper No. 8**)

73. Yarash, Nasratullah; Smith, Paul; Mielke, Katja (2010). The fuel economy of mountain villages in Ishkamish and Burka (Northeast Afghanistan). Rural subsistence and urban marketing patterns. (**Amu Darya Project Working Paper No. 9**)

74. Oberkircher, Lisa (2011). 'Stay – We Will Serve You Plov!'. Puzzles and pitfalls of water research in rural Uzbekistan.

75. Shtaltovna, Anastasiya; Hornidge, Anna-Katharina; Mollinga, Peter P. (2011). The Reinvention of Agricultural Service Organisations in Uzbekistan – a Machine-Tractor Park in the Khorezm Region.

76. Stellmacher, Till; Grote, Ulrike (2011). Forest Coffee Certification in Ethiopia: Economic Boon or Ecological Bane?

77. Gatzweiler, Franz W.; Baumüller, Heike; Ladenburger, Christine; von Braun, Joachim (2011). Marginality. Addressing the roots causes of extreme poverty.

78. Mielke, Katja; Schetter, Conrad; Wilde, Andreas (2011). Dimensions of Social Order: Empirical Fact, Analytical Framework and Boundary Concept.

79. Yarash, Nasratullah; Mielke, Katja (2011). The Social Order of the Bazaar: Socio-economic embedding of Retail and Trade in Kunduz and Imam Sahib

80. Baumüller, Heike; Ladenburger, Christine; von Braun, Joachim (2011). Innovative business approaches for the reduction of extreme poverty and marginality?

81. Ziai, Aram (2011). Some reflections on the concept of 'development'.

82. Saravanan V.S., Mollinga, Peter P. (2011). The Environment and Human Health - An Agenda for Research.

83. Eguavoen, Irit; Tesfai, Weyni (2011). Rebuilding livelihoods after dam-induced relocation in Koga, Blue Nile basin, Ethiopia.

84. Eguavoen, I., Sisay Demeku Derib et al. (2011). Digging, damming or diverting? Small-scale irrigation in the Blue Nile basin, Ethiopia.

85. Genschick, Sven (2011). Pangasius at risk - Governance in farming and processing, and the role of different capital.

86. Quy-Hanh Nguyen, Hans-Dieter Evers (2011). Farmers as knowledge brokers: Analysing three cases from Vietnam's Mekong Delta.

87. Poos, Wolf Henrik (2011). The local governance of social security in rural Surkhondarya, Uzbekistan. Post-Soviet community, state and social order.

88. Graw, Valerie; Ladenburger, Christine (2012). Mapping Marginality Hotspots. Geographical Targeting for Poverty Reduction.

89. Gerke, Solvay; Evers, Hans-Dieter (2012). Looking East, looking West: Penang as a Knowledge Hub.

90. Turaeva, Rano (2012). Innovation policies in Uzbekistan: Path taken by ZEFa project on innovations in the sphere of agriculture.

91. Gleisberg-Gerber, Katrin (2012). Livelihoods and land management in the Ioba Province in south-western Burkina Faso.

92. Hiemenz, Ulrich (2012). The Politics of the Fight Against Food Price Volatility – Where do we stand and where are we heading?

93. Baumüller, Heike (2012). Facilitating agricultural technology adoption among the poor: The role of service delivery through mobile phones.

94. Akpabio, Emmanuel M.; Saravanan V.S. (2012). Water Supply and Sanitation Practices in Nigeria: Applying Local Ecological Knowledge to Understand Complexity.

95. Evers, Hans-Dieter; Nordin, Ramli (2012). The Symbolic Universe of Cyberjaya, Malaysia.

96. Akpabio, Emmanuel M. (2012). Water Supply and Sanitation Services Sector in Nigeria: The Policy Trend and Practice Constraints.

97. Boboyorov, Hafiz (2012). Masters and Networks of Knowledge Production and Transfer in the Cotton Sector of Southern Tajikistan.

98. Van Assche, Kristof; Hornidge, Anna-Katharina (2012). Knowledge in rural transitions - formal and informal underpinnings of land governance in Khorezm.

99. Eguavoen, Irit (2012). Blessing and destruction. Climate change and trajectories of blame in Northern Ghana.

100. Callo-Concha, Daniel; Gaiser, Thomas and Ewert, Frank (2012). Farming and cropping systems in the West African Sudanian Savanna. WASCAL research area: Northern Ghana, Southwest Burkina Faso and Northern Benin.

101. Sow, Papa (2012). Uncertainties and conflicting environmental adaptation strategies in the region of the Pink Lake, Senegal.

102. Tan, Siwei (2012). Reconsidering the Vietnamese development vision of "industrialisation and modernisation by 2020".

103. Ziai, Aram (2012). Postcolonial perspectives on 'development'.

104. Kelboro, Girma; Stellmacher, Till (2012). Contesting the National Park theorem? Governance and land use in Nech Sar National Park, Ethiopia.

105. Kotsila, Panagiota (2012). "Health is gold": Institutional structures and the realities of health access in the Mekong Delta, Vietnam.

106. Mandler, Andreas (2013). Knowledge and Governance Arrangements in Agricultural Production: Negotiating Access to Arable Land in Zarafshan Valley, Tajikistan.

107. Tsegai, Daniel; McBain, Florence; Tischbein, Bernhard (2013). Water, sanitation and hygiene: the missing link with agriculture.

108. Pangaribowo, Evita Hanie; Gerber, Nicolas; Torero, Maximo (2013). Food and Nutrition Security Indicators: A Review.

109. von Braun, Joachim; Gerber, Nicolas; Mirzabaev, Alisher; Nkonya Ephraim (2013). The Economics of Land Degradation.

110. Stellmacher, Till (2013). Local forest governance in Ethiopia: Between legal pluralism and livelihood realities.

111. Evers, Hans-Dieter; Purwaningrum, Farah (2013). Japanese Automobile Conglomerates in Indonesia: Knowledge Transfer within an Industrial Cluster in the Jakarta Metropolitan Area.

112. Waibel, Gabi; Benedikter, Simon (2013). The formation water user groups in a nexus of central directives and local administration in the Mekong Delta, Vietnam.

113. Ayaribilla Akudugu, Jonas; Laube, Wolfram (2013). Implementing Local Economic Development in Ghana: Multiple Actors and Rationalities.

114. Malek, Mohammad Abdul; Hossain, Md. Amzad; Saha, Ratnajit; Gatzweiler, Franz W. (2013). Mapping marginality hotspots and agricultural potentials in Bangladesh.

115. Siriwardane, Rapti; Winands, Sarah (2013). Between hope and hype: Traditional knowledge(s) held by marginal communities.

116. Nguyen, Thi Phuong Loan (2013). The Legal Framework of Vietnam's Water Sector: Update 2013.

117. Shtaltovna, Anastasiya (2013). Knowledge gaps and rural development in Tajikistan. Agricultural advisory services as a panacea?

118. Van Assche, Kristof; Hornidge, Anna-Katharina; Shtaltovna, Anastasiya; Boboyorov, Hafiz (2013). Epistemic cultures, knowledge cultures and the transition of agricultural expertise. Rural development in Tajikistan, Uzbekistan and Georgia.

119. Schädler, Manuel; Gatzweiler, Franz W. (2013). Institutional Environments for Enabling Agricultural Technology Innovations: The role of Land Rights in Ethiopia, Ghana, India and Bangladesh.

120. Eguavoen, Irit; Schulz, Karsten; de Wit, Sara; Weisser, Florian; Müller-Mahn, Detlef (2013). Political dimensions of climate change adaptation. Conceptual reflections and African examples.

121. Feuer, Hart Nadav; Hornidge, Anna-Katharina; Schetter, Conrad (2013). Rebuilding Knowledge. Opportunities and risks for higher education in post-conflict regions.

122. Dörendahl, Esther I. (2013). Boundary work and water resources. Towards improved management and research practice?

123. Baumüller, Heike (2013). Mobile Technology Trends and their Potential for Agricultural Development

124. Saravanan, V.S. (2013). "Blame it on the community, immunize the state and the international agencies." An assessment of water supply and sanitation programs in India.

125. Ariff, Syamimi; Evers, Hans-Dieter; Ndah, Anthony Banyouko; Purwaningrum, Farah (2014). Governing Knowledge for Development: Knowledge Clusters in Brunei Darussalam and Malaysia.

126. Bao, Chao; Jia, Lili (2014). Residential fresh water demand in China. A panel data analysis.

127. Siriwardane, Rapti (2014). War, Migration and Modernity: The Micro-politics of the Hijab in Northeastern Sri Lanka.

128. Kirui, Oliver Kiptoo; Mirzabaev, Alisher (2014). Economics of Land Degradation in Eastern Africa.

129. Evers, Hans-Dieter (2014). Governing Maritime Space: The South China Sea as a Mediterranean Cultural Area.

130. Saravanan, V. S.; Mavalankar, D.; Kulkarni, S.; Nussbaum, S.; Weigelt, M. (2014). Metabolized-water breeding diseases in urban India: Socio-spatiality of water problems and health burden in Ahmedabad.

131. Zulfiqar, Ali; Mujeri, Mustafa K.; Badrun Nessa, Ahmed (2014). Extreme Poverty and Marginality in Bangladesh: Review of Extreme Poverty Focused Innovative Programmes.

132. Schwachula, Anna; Vila Seoane, Maximiliano; Hornidge, Anna-Katharina (2014). Science, technology and innovation in the context of development. An overview of concepts and corresponding policies recommended by international organizations.

133. Callo-Concha, Daniel (2014). Approaches to managing disturbance and change: Resilience, vulnerability and adaptability.

134. Mc Bain, Florence (2014). Health insurance and health environment: India's subsidized health insurance in a context of limited water and sanitation services.

135. Mirzabaev, Alisher; Guta, Dawit; Goedecke, Jann; Gaur, Varun; Börner, Jan; Virchow, Detlef; Denich, Manfred; von Braun, Joachim (2014). Bioenergy, Food Security and Poverty Reduction: Mitigating tradeoffs and promoting synergies along the Water-Energy-Food Security Nexus.

136. Iskandar, Deden Dinar; Gatzweiler, Franz (2014). An optimization model for technology adoption of marginalized smallholders: Theoretical support for matching technological and institutional innovations.

137. Bühler, Dorothee; Grote, Ulrike; Hartje, Rebecca; Ker, Bopha; Lam, Do Truong; Nguyen, Loc Duc; Nguyen, Trung Thanh; Tong, Kimsun (2015). Rural Livelihood Strategies in Cambodia: Evidence from a household survey in Stung Treng.

138. Amankwah, Kwadwo; Shtaltovna, Anastasiya; Kelboro, Girma; Hornidge, Anna-Katharina (2015). A Critical Review of the Follow-the-Innovation Approach: Stakeholder collaboration and agricultural innovation development.

139. Wiesmann, Doris; Biesalski, Hans Konrad; von Grebmer, Klaus; Bernstein, Jill (2015). Methodological review and revision of the Global Hunger Index.

140. Eguavoen, Irit; Wahren, Julia (2015). Climate change adaptation in Burkina Faso: aid dependency and obstacles to political participation. Adaptation au changement climatique au Burkina Faso: la dépendance à l'aide et les obstacles à la participation politique.

141. Youkhana, Eva. Postponed to 2016 (147).

142. Von Braun, Joachim; Kalkuhl, Matthias (2015). International Science and Policy Interaction for Improved Food and Nutrition Security: toward an International Panel on Food and Nutrition (IPFN).

143. Mohr, Anna; Beuchelt, Tina; Schneider, Rafaël; Virchow, Detlef (2015). A rights-based food security principle for biomass sustainability standards and certification systems.

144. Husmann, Christine; von Braun, Joachim; Badiane, Ousmane; Akinbamijo, Yemi; Fatunbi, Oluwole Abiodun; Virchow, Detlef (2015). Tapping Potentials of Innovation for Food Security and Sustainable Agricultural Growth: An Africa-Wide Perspective.

145. Laube, Wolfram (2015). Changing Aspirations, Cultural Models of Success, and Social Mobility in Northern Ghana.

146. Narayanan, Sudha; Gerber, Nicolas (2016). Social Safety Nets for Food and Nutritional Security in India.

147. Youkhana, Eva (2016). Migrants' religious spaces and the power of Christian Saints – the Latin American Virgin of Cisne in Spain.

148. Grote, Ulrike; Neubacher, Frank (2016). Rural Crime in Developing Countries: Theoretical Framework, Empirical Findings, Research Needs.

149. Sharma, Rasadhika; Nguyen, Thanh Tung; Grote, Ulrike; Nguyen, Trung Thanh. Changing Livelihoods in Rural Cambodia: Evidence from panel household data in Stung Treng.

150. Kavegue, Afi; Eguavoen, Irit (2016). The experience and impact of urban floods and pollution in Ebo Town, Greater Banjul Area, in The Gambia.

151. Mbaye, Linguère Mously; Zimmermann, Klaus F. (2016). Natural Disasters and Human Mobility.

152. Gulati, Ashok; Manchanda, Stuti; Kacker, Rakesh (2016). Harvesting Solar Power in India.

153. Laube, Wolfram; Awo, Martha; Derbile, Emmanuel (2017). Smallholder Integration into the Global Shea Nut Commodity Chain in Northern Ghana. Promoting poverty reduction or continuing exploitation?

154. Attemene, Pauline; Eguavoen, Irit (2017). Effects of sustainability communication on environments and rural livelihoods.

155. Von Braun, Joachim; Kofol, Chiara (2017). Expanding Youth Employment in the Arab Region and Africa.

156. Beuchelt, Tina (2017). Buying green and social from abroad: Are biomass-focused voluntary sustainability standards useful for European public procurement?

157. Bekchanov, Maksud (2017). Potentials of Waste and Wastewater Resources Recovery and Re-use (RRR) Options for Improving Water, Energy and Nutrition Security.

158. Leta, Gerba; Kelboro, Girma; Stellmacher, Till; Hornidge, Anna-Katharina (2017). The agricultural extension system in Ethiopia: operational setup, challenges and opportunities.

159. Ganguly, Kavery; Gulati, Ashok; von Braun, Joachim (2017). Innovations spearheading the next transformations in India's agriculture.

160. Gebreselassie, Samuel; Haile Mekbib G.; Kalkuhl, Matthias (2017). The Wheat Sector in Ethiopia: Current Status and Key Challenges for Future Value Chain Development.

161. Jemal, Omarsherif Mohammed, Callo-Concha, Daniel (2017). Potential of Agroforestry for Food and Nutrition Security of Small-scale Farming Households.

162. Berga, Helen; Ringler, Claudia; Bryan, Elizabeth; El Didi, Hagar; Elnasikh Sara (2017). Addressing Transboundary Cooperation in the Eastern Nile through the Water-Energy-Food Nexus. Insights from an E-survey and Key Informant Interviews.

163. Bekchanov, Maksud (2017). Enabling Environment for Waste and Wastewater Recycling and Reuse Options in South Asia: the case of Sri Lanka.

164. Kirui, Oliver Kiptoo; Kozicka, Martha (2018). Vocational Education and Training for Farmers and Other Actors in the Agri-Food Value Chain in Africa.

165. Christinck, Anja; Rattunde, Fred; Kergna, Alpha; Mulinge, Wellington; Weltzien, Eva (2018). Identifying Options for the Development of Sustainable Seed Systems - Insights from Kenya and Mali.

166. Tambo, Justice A. (2018). Recognizing and rewarding farmers' creativity through contests: experiences and insights from four African countries.

167. von Braun, Joachim (2018). Innovations to Overcome the Increasingly Complex Problems of Hunger.

168. Bechanov, Maksud; Evia, Pablo (2018). Resources Recovery and Reuse in Sanitation and Wastewater Systems: Options and Investment Climate in South and Southeast Asian Countries.

169. Kirui, Oliver K.; von Braun, Joachim (2018). Mechanization in African Agriculture: A Continental Overview on Patterns and Dynamics.

170. Beuchelt, Tina; Sarah Nischalke (2018). Adding a gender lens in quantitative development research on food and non-food biomass production: A guide for sex-disaggregated data collection

171. Daum, Thomas (2018). Of Bulls and Bulbs: Aspirations and perceptions of rural youth in Zambia.

172. Salvatierra-Rojas, Ana; Torres-Toledo, Victor; Mrabet, Farah; Müller, Joachim (2018). Improving milk value chains through solar milk cooling.

173. Desalegn, Gl·shaw; Ali, Seid Nuru (2018). Review of the Impact of Productive Safety Net Program (PSNP) on Rural Welfare in Ethiopia.

http://www.zef.de/workingpapers.html

ZEF Development Studies

edited by
Solvay Gerke and Hans-Dieter Evers

Center for Development Research (ZEF),
University of Bonn

Shahjahan H. Bhuiyan
Benefits of Social Capital. Urban Solid Waste Management in Bangladesh
Vol. 1, 2005, 288 p., 19.90 EUR, br. ISBN 3-8258-8382-5

Veronika Fuest
Demand-oriented Community Water Supply in Ghana. Policies, Practices and Outcomes
Vol. 2, 2006, 160 p., 19.90 EUR, br. ISBN 3-8258-9669-2

Anna-Katharina Hornidge
Knowledge Society. Vision and Social Construction of Reality in Germany and Singapore
Vol. 3, 2007, 200 p., 19.90 EUR, br. ISBN 978-3-8258-0701-6

Wolfram Laube
Changing Natural Resource Regimes in Northern Ghana. Actors, Structures and Institutions
Vol. 4, 2007, 392 p., 34.90 EUR, br. ISBN 978-3-8258-0641-5

Lirong Liu
Wirtschaftliche Freiheit und Wachstum. Eine international vergleichende Studie
Vol. 5, 2007, 200 p., 19.90 EUR, br. ISBN 978-3-8258-0701-6

Phuc Xuan To
Forest Property in the Vietnamese Uplands. An Ethnography of Forest Relations in Three Dao Villages
Vol. 6, 2007, 296 p., 29.90 EUR, br. ISBN 978-3-8258-0773-3

Caleb R.L. Wall, Peter P. Mollinga (Eds.)
Fieldwork in Difficult Environments. Methodology as Boundary Work in Development Research
Vol. 7, 2008, 192 p., 19.90 EUR, br. ISBN 978-3-8258-1383-3

Solvay Gerke, Hans-Dieter Evers, Anna-K. Hornidge (Eds.)
The Straits of Malacca. Knowledge and Diversity
Vol. 8, 2008, 240 p., 29.90 EUR, br. ISBN 978-3-8258-1383-3

Caleb Wall
Argorods of Western Uzbekistan. Knowledge Control and Agriculture in Khorezm
Vol. 9, 2008, 384 p., 29.90 EUR, br. ISBN 978-3-8258-1426-7

Irit Eguavoen
The Political Ecology of Household Water in Northern Ghana
Vol. 10, 2008, 328 p., 34.90 EUR, br. ISBN 978-3-8258-1613-1

Charlotte van der Schaaf
Institutional Change and Irrigation Management in Burkina Faso. Flowing Structures and Concrete Struggles
Vol. 11, 2009, 344 p., 34.90 EUR, br. ISBN 978-3-8258-1624-7

Nayeem Sultana
The Bangladeshi Diaspora in Peninsular Malaysia. Organizational Structure, Survival Strategies and Networks
Vol. 12, 2009, 368 p., 34.90 EUR, br. ISBN 978-3-8258-1629-2

Peter P. Mollinga, Anjali Bhat, Saravanan V.S. (Eds.)
When Policy Meets Reality. Political Dynamics and the Practice of Integration in Water Resources Management Reform
Vol. 13, 2010, 216 p., 29.90 EUR, br., ISBN 978-3-643-10672-8

Irit Eguavoen, Wolfram Laube (Eds.)
Negotiating Local Governance. Natural Resources Management at the Interface of Communities and the State
Vol. 14, 2010, 248 p., 29.90 EUR, br., ISBN 978-3-643-10673-5

William Tsuma
Gold Mining in Ghana. Actors, Alliances and Power
Vol. 15, 2010, 256 p., 29.90 EUR, br., ISBN 978-3-643-10811-1

Thim Ly
Planning the Lower Mekong Basin: Social Intervention in the Se San River
Vol. 16, 2010, 240 p., 29.90 EUR, br., ISBN 978-3-643-10834-0

Tatjana Bauer
The Challenge of Knowledge Sharing - Practices of the Vietnamese Science Community in Ho Chi Minh City and the Mekong Delta
Vol. 17, 2011, 304 p., 29.90 EUR, br., ISBN 978-3-643-90121-7

Pham Cong Huu
Floods and Farmers - Politics, Economics and Environmental Impacts of Dyke Construction in the Mekong Delta / Vietnam
Vol. 18, 2012, 200 p., 29.90 EUR, br., ISBN 978-3-643-90167-5

Judith Ehlert
Beautiful Floods - Environmental Knowledge and Agrarian Change in the Mekong Delta, Vietnam
Vol. 19, 2012, 256 S., 29,90 EUR, br, ISBN 978-3-643-90195-8

Nadine Reis
Tracing and Making the State - Policy practices and domestic water supply in the Mekong Delta, Vietnam
Vol. 20, 2012, 272 S., 29.90 EUR, br., ISBN 978-3-643-90196-5

Martha A. Awo
Marketing and Market Queens - A study of tomato farmers in the Upper East region of Ghana
Vol. 21, 2012, 192 S., 29.90 EUR, br., ISBN 978-3-643-90234-4

Asghar Tahmasebi
Pastoral Vulnerability to Socio-political and Climate Stresses - The Shahsevan of North Iran
Vol. 22, 2013, 192 S., 29.90 EUR, br., ISBN 978-3-643-90357-0

Anastasiya Shtaltovna
Servicing Transformation - Agricultural Service Organisations and Agrarian Change in Post-Soviet Uzbekistan
Vol. 23, 2013, 216 S., 29.90 EUR, br., ISBN 978-3-643-90358-7

Hafiz Boboyorov
Collective Identities and Patronage Networks in Southern Tajikistan
Vol. 24, 2013, 304 S., 34.90 EUR, br., ISBN 978-3-643-90382-2

Simon Benedikter
The Vietnamese Hydrocracy and the Mekong Delta. Water Resources Development from State Socialism to Bureaucratic Capitalism
Vol. 25, 2014, 330 S., 39.90 EUR, br., ISBN 978-3-643-90437-9

Sven Genschick
Aqua-`culture´. Socio-cultural peculiarities, practical senses, and missing sustainability in Pangasius aquaculture in the Mekong Delta, Vietnam.
Vol. 26, 2014, 262 S., 29.90 EUR, br., ISBN 978-3-643-90485-0

Farah Purwaningrum
Knowledge Governance in an Industrial Cluster. The Collaboration between Academia-Industry-Government in Indonesia.
Vol. 27, 2014, 296 S., 39.90 EUR, br., ISBN 978-3-643-90508-6

Panagiota Kotsila
Socio-political and Cultural Determinants of Diarrheal Disease in the Mekong Delta. From Discourse to Incidence
Vol. 28, 2014, 376 S., 39.90 EUR, br., ISBN 978-3-643-90562-8

Huynh Thi Phuong Linh
State-Society Interaction in Vietnam. The Everyday Dialogue of Local Irrigation Management in the Mekong Delta
Vol. 29, 2016, 304 S., 39.90 EUR, br., ISBN 978-3-643-90719-6

Siwei Tan
Space and Environment in the Industrialising Mekong Delta. A socio-spatial analysis of wastewater management in Vietnam
Vol. 30, 2016, 240 S., 29.90 EUR, br., ISBN 978-3-643-90746-2

http://www.lit-verlag.de/reihe/zef

zef
Center for
Development Research
University of Bonn

Working Paper Series

Authors: Gashaw Desalegn and Seid Nuru Ali

Contacts: gashawd1@gmail.com, seidnali@yahoo.com

Photo: Daniel Ayalew Mekonnen

Published by:
Zentrum für Entwicklungsforschung (ZEF)
Center for Development Research
Genscherallee 3
D – 53113 Bonn
Germany

Phone: +49-228-73-1861
Fax: +49-228-73-1869
E-Mail: presse.zef@uni-bonn.de

www.zef.de