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ROLE OF SELF-TARGETING PROGRAMS IN LONG TERM DEVELOPMENT

MASTER THESIS

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I declare in lieu of oath that I wrote this thesis myself. All information derived from the work of others has been acknowledged in the text and a list of references is given.

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Abstract

This thesis examines phenomenon of public works and self-targeting transfers. The basic question is whether public works can produce reasonable assets that bring about future returns and in the same time provide employment to the great numbers of employees. Results show that these objectives are hardly compatible. Either there can be concept of public works focused primarily on asset creation but with limited participating workforce, or concept that maximize employment but put less emphasis on assets profitability. While the first concept is adequate for poverty reduction, the second one is likely to provide alleviation assistance through wages paid in times of various crises. This distinction comes from analysis of the most profitable assets. The most significant impact on growth and poverty alleviation have transport infrastructure, electricity and communication networks. Unfortunately public works focused primarily on employment cannot produce such assets in reasonable quality. However concern is put upon construction of irrigation canals that usually enhance yields of farmers. In this case public works with self-targeting screening mechanism can contribute to development. Still their role is primarily in poverty alleviation than in development. The rate of such contribution in case of both concepts is minor in contrast with universal schemes. This disproportion when it is not mentioned might lead to overestimation of public works role. The concern here was put to prevent this mistake.

Key words: Self –Targeting, Public-Works, Assets

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INTRODUCTION

This thesis examines two phenomena. The first one represents *Public Works* (PWs) and the second one *Targeting,* respectively the *Self-Targeting* method of identifying potential beneficiaries for social transfers. Both concepts are very attractive devices in the light of poverty alleviation and reduction. The ground for PWs popularity began in the 1930s when the concept was launched under Roosevelt's New Deal policy to confront unemployment and bring about economic recovery. The recent economic stagnation of Least Developed Countries (LDCs) and growing unemployment may thus induce appeal for the re-emergence of the PWs concept here. Targeting on the other hand is quite a new and highly selective method that tries to identify the truly deserving and exclude others from the following transfer. Self-targeting then represents a means of retrenching the cost of identification so that a single would-be participant can decide for herself whether to take part or not. While PWs have potential to create useful goods for society and individuals, self-targeting can facilitate inexpensive and accurate selection of those who really need some form of assistance. The idea behind this thesis is to put those concepts together and examine whether such kind of scheme can contribute to poverty reduction with respect to a country's development. On the first sight this attractive linkage would be able to offer employment to everybody who applies and in the same time produce fruitful assets that would lead towards country development. Some real programs are even presented this way such as National Rural Employment Guarantee Scheme (NREGA) in India. However the prospective results are more complicated. First of all the concern should be about the limitations of self-targeting screening mechanism and public works itself and then about assets created through them. What kind of assets have the highest returns, what kind contribute to poverty reduction most? In what kind of social and situational contexts might PWs with self-targeting screening mechanism be applied? Which factors encourag the effect of these schemes and which do not? What is the position of it in the redistributive or social policy?

These answers for those questions are in the text below. The ground for arguments and data come from the electronic science databases such as EBSCO, Science Direct and JStor. Some case studies or concrete programs that are cited are stored on web pages or working papers of the World Bank, International Labour Organization (ILO) and agencies of United Nations. The methodology of this thesis is based on the inductive empirical technique. Represented points of view take into account only inner country factors especially the conditions in rural spheres. The examples are used throughout developing countries. The first three chapters analyze self-targeting, public works and assets per se. Concerning self-targeting, the origin of the concept and foregoing schemes are

examined towards better understanding of the position of this concept among other transfers. In the following part public works are introduced and conceptually matched with self-selection screening mechanism. The first trade-offs occur right there. The analytical part terminates with the third chapter, and concerns assetdivision and delimitation of their roles and effects. In the last chapter there is synthesis of previous parts, where yet found dilemmas are confronted with one another and classified according to situational contexts. The final conclusion is based on the arguments of authorities and inductive logic.

1 TARGETING AS A RECENT PHENOMENON IN POVERTY ALLEVIATION AGENDA

Targeting is method of how to reach the most disadvantaged with useful assistance. It is form of identification of poor and redistribution of resources. Social policy is in charge of redistributive measures. In this chapter there are discussed two of them. On the first place the universal programs and secondly the targeting schemes. While one was discouraged during a time other came into attention. For the further thesis understanding it is important to reveal their mutual relations in the context of international development and historical transformations. Following chapter will provide technical and ideological data for both measures. However the attention is devoted primarily to diverse roles of targeting schemes, because one of them - the promotive role - is under consideration of the entire thesis. Information from this chapter is usefully utilized in the final evaluation of certain type of self-targeting scheme.

1.1 UNIVERSALISM IN SPOTLIGHT

Universalism is a line of thought tightly connected with the concept of the welfare state. Richard Titmuss see universalism as a concept of equal redistribution broadly adopted by European countries in specific sectors after the Second World War. However the path towards welfare universalism started as far back as the industrial revolution.. Even in the 19st century there was a concern about high inequalities in education, health care, pension and access to services among citizens. Nationals elites saw this disproportion as a bottleneck for further state development, because the new industry demanded a qualified and healthy workforce.

Although, according to Bauman's implicit message in his book: *Liquid Modernity* (2002), the pressure for safety nets and consequently universal redistribution appeared from the bottom – the organized labor force of the early 19th century. It is true that the first safety nets appeared in Germany in 1881 as a consequence of political reality influenced by labour unions. Since that time the entitlement and eligibility criteria for inclusion under such safety nets has (universally) spilled over onto almost all citizens.

Welfare and well-being was no longer just a matter of individual effort or luck, but also a matter of welfare commitment expressed by policymakers to the citizens.. Thus the state gained an unprecedented affinity with its citizens and this attitude persists up to now in most countries of the the world. Regardless of *Welfare States* and *Universal* redistributive schemes root they are affluently presented in the modern world in practical and conceptual states. However there are plenty of new

redistributive attitudes today. But still the universal conception based on minimal entitlements is behind most interventions such as targeting measures.

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The essence of universal attitude is based on some obligation of the state towards citizens in the sphere of living chances. Although this obligation does not refer to all living situations of any given population, nor to everybody. Eventually in concrete redistributive program cases the eligibility criteria are defined according to political priorities. The key parameters of such attitude are the nature of coverage (mostly citizenship, geographic affirmation or status) and the filters for authorized entitlement (age, gender, kind of illness, years of employment, income earned).The final design of universal schemes results from the combination of these two criteria i.e. who can benefit and under what conditions (coverage and entitlement). From the Political philosophy points of view the nature of universal transfers is more an outcome of equity prism rather than fairness.[1] This is what Samson (2006) called *Unconditional Transfers*. In Accordance with policymakers' consensus, there are different living situations identified for compensation transfers such as motherhood, retirement, illness etc. Thus any individual - going through her /his life cycle -, who matches these criteria, is eligible for some transfer or benefit under universal schemes. In other words she/he does not have to put on a special effort to obtain the fruits of the safety net. In developed countries universal transfers (in the category of social spending) take up more than 60 per cent of total national budget. Even in developing countries there is force for such expenditures, but the financing of this kind of transfers is undermined by a lack of income from tax revenues and priorities elsewhere such as the military sector. Still developing countries continuously try hard to maintain social pensions, child support grants, family assistance, widows' allowances and grants for people with disabilities (Samson, 2006).[2]

1.1.1 HISTORY OF UNIVERSALISM

The historical experience shows that universal schemes rampantly expanded in the countries of *Global North* and *South* equally. Their popularity among citizens probably coincided with eligibility softness of criteria for participation. As an example, free of charge, basic and secondary education, health service, a system of guaranteed pensions, or diverse price endowments can be mentioned.

[1] In practice the combination of both line of thought is applied. Although even if we take into account the pure equity prism there are two main divergent perspectives based on equity in consumption or equity in live chances (Swift, 2005).

[2] "Examples include pension programs in Bangladesh, Brazil, Lesotho, Namibia, Nepal, South Africa, and other countries" (Samson, 2006).

The motivation for such plentiful transfers was based on two grounds: 1, the state was perceived as a key agent in social policy. 2, Diverse minimal living standards were established as entitlements through the political process.

Nevertheless universal schemes were criticized as male oriented and blamed for excluding marginal groups by stressing some gender and race obstacles for instance (Mkandawire, 2005). Furthermore they were shown to be an unduly costly and inefficient pattern in some countries (no matter of their well-being). Hence it initiated public dispute about theoretical priorities within redistribution (giving preferences to fairness standpoint - the revised balance between individual and state responsibility). This dispute took place in the developing and the developed world with the similar resolution: spending cut and new *Residual Welfare* approach in social policies.[3] As Papola (2009:434) pointed, R*esidual Welfare* state assumes "responsibility only when the family or the market fails." Thus since the late 1970s there is evident ideological and technical advance from broad solidarity to individual responsibility and faith in the market and a move away from large endowment to selective assistance. In fact universal schemes were not abolished at all, but rather redefined with stronger given limits. Apparently this led to safety nets' undercoverage of special groups with specific needs mostly in developing countries because of administration constraints. The question was how to reach or cover them. Regarding the rising divergence of people's needs and inability to unify them within simple "static" schemes, there was a strong demand for the active identification of deserving groups and assistance delivery tools. In these circumstances targeting emerges as an alternative to lumpy universal programs. The rising popularity of this measure is on record of Mkandawire (2005:1) who shows that since the late 1970s there is a strong tilt in favor of targeting at the expense of universal schemes round the world, in other words there is a "shift from welfare to workfare."

1.1.2 UNIVERSLISM WITHDRAWAL

Developing countries in their internal policies, optionally or involuntarily reflected the process of the advanced economies with some delays, obviously. The external factors of this influence were international platforms such as Breton-Woods institutions, the United Nation Organization (UN) and, until 1989, bilateral diverse actors included under Socialist or Democratic blocks. But the political pressure from *North* to *South* was forestalled by economics constraints. Universal schemes

[3] For example Sri Lanka: "In the late 1970s, the cost of a universal ration programme reached 5 per cent of the gross domestic product (GDP), and the government was forced to cut costs by replacing it with a food stamp programme that cost only 1.3 per cent of GDP" (Mkandawire, 2005:13).

were broadly implemented in developing countries until the 1980s. When in 1973 the world economy slowed down, demand for goods from developing countries declined so tax revenues were reduced (The Lancet 1994:1377). At that time the financing of large social transfers was shown to be unrealistic. The infirm economic performances of developing countries revealed the indefensibility of costly universal schemes and moreover, even perspectives were discouraging:

> "A poor infrastructure, pricing policies that discouraged agricultural production and protected inefficient industries, and teak management became painfully obvious. Drought and war made the situation almost hopeless in some countries"(The Lancet, 1994:1377).

The lack of ability to finance safety nets in developing countries was hidden by cheap loans. They had been running from the released petrodollars for few years until 1980s, when the creditors (above all World Bank) reached their patience threshold. The World Bank emitted Structural Adjustment Programs (SAPs), which conditioned further credits to developing countries by radical public spending cuts. Universal schemes in developing countries were, to a certain extent, the victims of unfavorable circumstances. As a social policy tool universalism was not always a bad attitude in the case of developing countries, but wide evidence of

> "centralised authoritarianism, general inequality, rent-seeking political elites, and the bureaucratic weakness of states in coordinating and distributing services", (Figueira and Figueira 2002:127–128 in Mkandawire, 2005:5)

undermined donor willingness to support wide social spending. Furthermore as it was mentioned "for the aid-dependent or client state, ideological shifts reflected changes in the donors countries and international financial institutions" (Mkandawire, 2005:2). Still there was consensus among donors that universal programs should be replaced by other more effective ones in developing countries. Unfortunately political elites of the *southern* countries were partly discredited as partners. In the face of weak economic performances and distrust in political elites and whole concept of international aid the struggle to maintain some form of assistance was at deadlock. At that time targeting as a verified tool (in USA it has been applied since 1964 under the Economic Opportunity Act) was chosen to by-pass the discredited structures and reach only the most disadvantaged groups or individuals under SAPs – poor citizens who were it was expected were suffering most. Thus poverty and the poor came into the spotlight of aid agenda at the same time as the largest cuts were affecting them heavily.

One of the new cover schemes designed to alleviate the social cost of adjustment was *Social-Action Programs*, (The Lancet, 1994:1378) or *Social Funds*, where the government was partly excluded from implementation (Graham, 1992; Lustig, 1997).[4] There was no more space for large universal programs any more, but discussion appeared about how effectively the most vulnerable groups had been reached. Ideologically said there was new social consensus on rather surgery major for those in need (people under poverty line 1USD/day) than to keep standards of broad population in developing countries. According to Bardhan (1996:1350), "with SAPs necessitating large cuts in budgetary subsidies in many countries, targeting transfers to vulnerable groups has become even more important."

The effect of targeting schemes' enforcement is questionable. As Mkandawire (2005) concludes, in the most growing developing economies universal programs were maintained as an integral part of domestic policy (as in China). In other countries there is evidence of aid fragmentation from 1980 to 2005. "In the most aid-dependent economies, the shift of funds from state institutions and ministries to "projects" run by a motley assortment of non-state actors has immediately led to the unsustainability of activities that the state may have supported in the past or might wish to support now" (Mkandawire, 2005:16). It is disputable whether or not renascence of universal programs is already taking place under mechanism of *Budget Support* (BS) or *Sector Wide Approach* (SWAP).

1.2 TARGETTING TRANSFERS IN SPOTLIGHT

In accordance with *Residual Welfare* approach and J. S. Mills expressed commitment to the poor about resources which should be delivered to the needy only, "we shall ask how such a commitment might best be discharged." The task is "how to give the greatest amount of needful help with the smallest encouragement to undue reliance on it" (Beasly and Coate 1989:1). There are various mechanisms for identification of needy target groups and screening out the ineligible for purposes of transferring resources. Generally said, every program where eligibility criteria are adjusted – targeted, can be branded as targeting one (Devereux, 1999).

1.2.1 BASE FOR TARGETING

Targeting as a technique was broadly applied under *Social Funds* released simultaneously with SAPs "to protect specific vulnerable groups (poor in most cases) from the short-term adverse impact of

[4] "*Social Funds* and *Social-Action Programs* became common instrument through which The World Bank is trying to protect vulnerable groups with specific needs from the short-term unfavorable impact of SAPs (Lustig, 1997).

SAPs" (Lustig, 1997:2). "There is evidence that income variability can have a more devastating impact on the poor than on the rich. For one thing, poorer people face higher risks to infant life from a fall in consumption. It has been found that fluctuations in agricultural output or prices have adverse effects on nutrition. "In times of economic stress, households often discriminate against the more vulnerable" (Lustig, 1997:1). Poor people in addition faced the phenomena which they cannot influence directly such as globalization, SAPs implementation, international trade etc. Owing to the high rate of vulnerability and marginal power to influence its vicinity, the poorest people deserve special attention and assistance. On this point targeting can enhance the identification and delivery of needed assistance. Moreover, sometimes rampant state bureaucracy can be avoided in implementation of targeting program. Finally instead of supporting five quintiles of the population equally (by universal schemes), it would be more efficient to give all the resources to the people of the lowest two quintiles, who really need it[5] (Coady et al, 2004). Theoretically there was favorable ground for targeting. The poor and the poverty agenda have been blatant components of aid policies and international forums since the 1990s. Alongside it, targeting as a tool was thought to be a more palliative treatment, than measure for "effective long-term poverty reduction strategy" (Ravallion, 2003:1). Thus the coincidence of first targeting interventions in developing countries with SAPs was in accordance with the relief design of launched aid.

The pressure for cost effectiveness and accuracy made targeting advantageous for playing an important role in redistributive policies. Because targeted groups can differ in their needs substantially, they do not have to be concentrated geographically. Hence the assistance measure has to be flexibleenough to reach the needy, exclude the non-needy and adjust its "product" according to local needs. When we take economic performance into account there is high pressure for higher transfers to the target group while no transfers to the better off. According to Coady et al. (2004:2) "across all programs for which we could obtain information on targeting performance, we find that the median program provides approximately 25 percent more resources to the poor than would random allocations did [i.e. universal schemes]." However the difficulty of cost-effectiveness depends not only on targeting design, but also on the way programs are implemented per se. Targeting is a phenomenon which, unlike universal programs, can respond effectively and more readily to different needs.

[5] According to *Utilitarianism* based theory of d*iminishing marginal utility*, it is feasible to say: let us transfer all programs benefits to the poorest part of population, because it would bring higher contribution to them, contrary it would caused to the wealthier ones (Swift, 2004).

1.3 TARGETING METHODS AND GENERAL OBJECTIVE

As has been already mentioned, one of the reasons for targeting programmes' enforcement in developing countries was their potential to screen effectively the would-be participants. Coady et al. (2004) indicated three kind of screening mechanism for participant's selection: *Individual* or *household assessment*, *Categorical targeting* and *Self-selection*.[6] The first two types commonly demand certain administrative body to carry out the classification of applicants whether they are eligible to participate or not. While *Individual/household* assessment examines the current state of applicant, C*ategorical* selection is based on predefined criteria in accordance with program designer priorities (geographic selection, age eligibility, gender status etc). On this point Besley and Coate (1989); Coady et al. (2004); Mkandawire (2005); and Dutrey (2007) warn about high administrative costs contrary to old fashioned universal schemes. And recent practice matches theory, because in the Least Developing Countries (LDCs) especially any additional amount of administration within redistributive schemes represents a burden of inefficiency and spawns corruption. It is possible to combine particular screening methods to find the truly poor. Although the more targeting (screening) methods are combined within given program, the more precise but costly it is. In other words the net ratio of total benefits transferred to the target group within a total program budget is decreasing with the growing severity of administration.

Leaving this dispute behind, one of the most commonly used screening factors in the case of *Individual assessment* is income testing. This method is criticized by Sherranden (1991); Sen (1995); and Arefi (2008) who emphasizes the importance of asset possession evaluation for the estimation of further impact of income drop-out.[7] Regardless of their arguments it is true, that income is one of the easiest observable indicators. Furthermore targeting transfers are used for alleviation of adverse shocks hence the screening method should be also rapid enough to deliver assistance on time. To reduce administrative cost and maintain at least a partly holistic attitude for applicant investigation, community members might be invited to take part in the decision making process.

[6] Devereux (1999:63) used similar categories: *Individual assessment*, *Group characteristic* and *Self-targeting*. Ravallion (2004) presented four categories: *Indicator targeting*, *Conditional transfer*, *Community based programs* and *Self-targeting.* While Devereux (1999) and Ravallion (2004) are basically in line with Coady et al. (2004), Samson et al. (2006) is looking on the transfer programs not from the screening design point of view, but from the diverse cost applicant have to pay to obtain benefit (*Unconditional*, *Conditional Transfers* and *Public Works*).

[7] Investigation of assets possession can provide not only the current state of applicant, but even the historical evidence of the way how she/he got in recent situation. On the bases of these information program designer can prepare adequate intervention.

Self-selection or *Self-targeting* is a method which is being used to try and avoid problems of indicators' credibility and basically leaves the final decision up to the would-be-participants themselves whether to take part or not. The final decision matches the applicant trade-off between net losses and net benefits, because participation always includes some cost (as in all types of targeted schemes), which is valuated differently person by person (Ravallion, 2003). In practice the combination of severe targeting methods is very common. The more screening methods are used, the more accurate targeting is and the better error leakage is eliminated (Coady et al., 2004). Looking at the performance, beside the several costs of targeting, the recent scientific dispute takes into account (a) the net share of total program budget transferred to the target group,[8] (b) the elimination of errors I.[9] or II.[10] and (c) according to Devereux (1999) the error of overfunding.[11]

Coady et al. (2004) determines the role of targeting transfers in development attitudes. He agrees on the presumption that "the asset base of poor households needs to be built up so that they can participate in the growth process". However, it is time consuming to ensure assets in adequate quality and quantity to all in need. Hence there is demand for short-term public transfers "to protect and raise the consumption of the poorest households" (Coady et al., 2004:1). In accordance with the origin of targeting methodology (to alleviate adverse effects of SAPs), there is wide consensus among authors about the prime objective of such programmes, which is to enable households to cope with their current circumstances of poverty (Ravallion, 1991; Bardhan, 1996; Lustig, 1997; Lipton and Yaqub, 1998; Samson et al., 2006; Papola, 2008).

However alternative roles and aims are designedly present in recent practices. Beside the relief role of targeting transfers, there are others such as *Protective*, *Preventive* and *Promotive* roles (Samson et al., 2006). The ascribed role of targeting measure is extracted from its impact. While *protective* role assumes it will enable households to take adequate risk copying strategy, the *preventive* role is ambitious in its declared intent to mitigate household risks. The risk reduction objective is possible to find under the *promotive* construct of still more or less relief measures in origin (Samson et al., 2006). The fundamental question is whether or not it is possible to incorporate and subsequently achieve other objectives in targeting intervention simultaneously with the relief objective.

[8] What is the net transfer forwarded to the target group and what is the administrative cost. Usually used to compare whether similar universal programs would have better allocation for lower price or not.
[9] The errors of exclusion: "Undercoverage is the proportion of poor households that are not included in the program" (Coady et al., 2004:10).
[10] The errors of inclusion: "Leakage is the proportion of those who are reached by the program who are classified as non-poor" (Coady et al., 2004:10).
[11] "Transferring more resources than the beneficiaries need to escape poverty" (Devereux, 1999:62).

Especially in the case of *Public Works* (PWs) with a self-targeting screening mechanism created goods and services might contribute to accelerate growth and thus lead towards poverty reduction. Although it is hard to evaluate the complex impact of such schemes, because some intangible and even tangible assets created, by targeting scheme realization, are not marketable, i.e. their value is hardly observable.

By contrast poverty measuring, either by consumption or income, is possible even in undeveloped regions. Furthermore, simple transfers are also easily calculable, so the targeting palliative performance and impact is feasible to evaluate. Hence the relief role of targeting programs still prevails among interventions. In practice, targeting programs usually directly or indirectly substitute the income drop out of the chosen category of people, because of relative feasibility and measurability. Targeting cost-effectiveness skepticisms are presented by Mkandawire (2005) and Dutrey (2007) who take into account only criteria (a) and (b) as discussed above. However the broader impact of targeting is insufficiently examined except for a few attempts represented, for instance, by Devereux (2004) or Devereux and Solomon (2006). This thesis puts attention onto assets created within public works and their potential for further poverty reduction. Furthermore it examines whether PWs with the self-targeted screening mechanism are promotional or rather protective.

1.4 CONCLUDING REMARKS

The role of the state in social policy and poverty reduction changed in last 60 years. Originally dominant and impersonal role of the state in 1960s was cut to minimal form in 1980s and settled down in the strong but redefined position with new poverty objectives and partners from non-profit sector (after 2000). This path is similar in developed and also developing countries and comes from the internal discourse in developed countries. However differences exist. While developed countries maintained some universal schemes, developing counterparts due to poor economic performance, high indebtedness and lost credibility had to withdraw from dominant role of providers and redefine the redistributive schemes in favor of targeting measures. In the same time the poverty agenda came into spotlight of international donors and lately developing states. Targeting poor occurred as a fresh approach which stifled donors' aid fatigue and identified new goals Mkandawire (2005). The basic technical arguments for targeting consist in their flexibility, financial feasibility, accuracy in delivery and stronger legitimacy. Universal schemes are contrary more expensive, static and wide coverage natured. The reasons for preferring targeting measures at the expense of the universal however lie rather in ideological level than in technical level.

Targeting measures are intentionally designed towards poverty alleviation. The idea is to enable households to cope with their current circumstances of poverty. Nevertheless the broad usage of targeting schemes brought about opinions for other additional roles of targeting such as preventive and promotive. The context of targeting measures origin (discussed in this chapter) will be important in final evaluation of this scheme.

2 SELF-TARGETING PROGRAMS AND RECENT DILEMMAS

Looking at the list of various targeting programs there is always one common aim present to increase "the benefit that the poor can get within a fixed program budget" (Coady et al., 2004:5). In the case of public works the concern might the same. However, the application of self-selection screening factor on public works opens space for wider discussion about the indirect effect or the whole impact of such a scheme. One may ask whether or not these programmes have the potential to reduce future poverty or trigger inclusive growth, build tangible and intangible assets, change recipients' behaviour, regulate risks, ensure provision of services and remedy market distortions. Public works are one of the most discussed tools, because the high heterogeneity of objectives is implicitly concentrated in them. However, it is apparent that one intervention cannot reach all potential objectives. Moreover, some objectives might be in the conflict.

Hence the following text devotes attention to self-targeting screening mechanism and public works programs at first. There are examined separately and then put together. While PWs and their impact will be examined further even in next chapters, self-targeting mechanism after analysis in this chapter will be just applied upon public works as an option. Text below starts with wider presentation of self-targeting mechanism explaining the private cost of participation. Then there are also first time introduced PWs with foundation of roots of their emergence. Gradually the explanation of the self-targeting dilemma, PWs multi-objectives and PWs dilemma whether focus on asset creation or poverty alleviation is examined.

2.1 SELF-TARGETING SCHEMES

A self-selection screening factor is applied in programs opened universally to all. Although it is desirable, that it encourages only the truly poor to take part. The presumption is based on the difference of "private participation cost between poor and non-poor" (Coady et al., 2004:15). It means there are diverse costs imposed purposely on participation acceptable only by a particular target group – people under the local poverty line. Contrary to other explicit targeting methods where participants have to be identified first, in the case of self-targeting programs, desired participants choose to take part themselves. In other words they self-select into the program.

In most cases self-selection is combined with geographical targeting, sometimes with quotas for women's inclusion defined by percentage (usually around one third of total participants).[12] Financial and implementation expenses often come from the particular state's national budget. Resources are commonly allocated through special taxes, although debt financing is also possible. Ravallion (1991:169), on this point is concerned with the effects of long-term financing through borrowing, because this "can have adverse effects on growth and (probably) the future alleviation of poverty". Another concern is whether or not to keep programs in the long term as a means of last resort employment for the poor. Some authors such as Lipton et al. (1998) would disagree because of the already described pattern of decreasing programme efficiency as time progresses. To avoid this particularity, governments such as India are replacing one program by another to prevent rent-seeking and corruption.

Coady et al. (2004) identified three potential schemes using self-selection screening factor: *Public Works* programs, *Subsidies* of non-prestigious *Food Prices*, and *Community bidding* or *Social Funds*. In this thesis I am focusing on self-targeted public works hence this scheme will be discussed later. Self-targeted subsidies are based on the food price endowment of non-popular or non-prestigious products such as sorghum as substitute of corn. The presumption says that a family with scarce resources is likely to buy cheaper but (socially not nutritionally determined) lower-class groceries, while better off citizens would maintain their customary practices. This attitude replaced universal costly and cost-ineffective food subsidies. According to Alderman and Lindert (1998) targeted subsidies can improve the distribution of food; however their impact on poverty alleviation is disputable. Basically there are two major objections. Firstly the subsidized commodity is unwillingly used predominantly in the livestock industry as pasturage (evidence from Egypt and subsidies for bread). In other words there are large leakages in such interventions. Secondly the price subsidies are likely feasible to be managed when the commodity is imported en block (Coady et al., 2004). The consequent impact of such policy on small-scale farmers might be liquidating. Concerning *community bidding programmes*, there is lack of evidence about them except few remarks in Coady et al. (2004). Probably those schemes are included in other community approaches such as *Seed Scale* and thus its pure performance is unlikely to be estimated.

2.1.1 PRIVATE COST OF PARTICIPATION

[12] In detail this problematic is discussed in Devereux and Solomon (2006:31). Issues of women participation rely not only on quotas, but on the cultural and social context. Moreover they might be unintentionally discouraged by program designers by different wage policy or the demand for physical labor only, or by travel expenses. Also see some case studies in Devereux (1999:68).

As Devereux states (1999), spotting self-targeting programs are extremely popular with policymakers and designers. It is because targeting accuracy can be ensured through simple and relatively cheap mechanisms. Investigation of devoted authors (Devereux, 1999; Samson et al., 2004; Coady et al., 2004; Currie and Gahvari, 2007) provides us some set of diverse cost that a would-be participant have to give up or even pay when she/he wants to participate. The cost might be based on the time (working time in public works programmes), opportunity cost (wage obtained by doing other activity in time of program participation), travel cost (the distribution point might be intentionally far from poor residences), energy cost (public works are demanding for hard manual activities which are not sustainable under low wages),[13] quality and quantity preferences (provision of low square footage housing or low quality of housing, education, health care, subsidized non prestigious food), behavioural change (sending children for regular medical checks, this might require additional cost), unofficial cost (bribes for administrators to be included in program) and social cost (being seen in public with a shovel supports the stigma). Some of the burdens are feasible to calculate (forgone income for instance) but most of them do have values in accordance with particular applicant priorities. Although it is attractive to design few factors and let the program start, in practice the implementation process might affect targeting tremendously. Thus the cost-effectiveness dispute should include also management singularities.

2.2 PUBLIC WORKS

Public works is an instrument that has been used for centuries. Besley and Coate (1989) mentioned the Poor Law in the United Kingdom launched in 1834 concerning the public workload. Work requirements were imposed on those who wanted to obtain benefits in the form of food products. The Czech experience refers to King Charles IV. Who, in 1360 initiated the building of fortifications round the western part of Prague. A year later a rampant famine broke out in the country. Many poor citizens found a livelihood in the wall construction. Hence this fortification is called *Hunger Wall* and it is used as example of workfare.[14] Still, public projects are thought to be interesting measures for crisis alleviation and economy stimulation. The modern occurrence of such projects can be found in the USA in times of the Great Depression in the 1930s, where there was established Civil Work Administration which employed four million workers in 1934 (Gottschalk and Freeman,

[13] "Unless a person can initially assure that her basal metabolic rate (BMR) — the food energy intake needed to support bodily functions at rest — is reached there can be no productive activity of any sort" (Ravallion, 2003:2-3). Hence participants might suffer in long time under such a workfare programs.

[14] While there was strategic demand for a defensive barrier in Prague town, the construction provided a livelihood to a wide range of citizens starving that time. This objectives heterogeneity is not obvious in recent schemes and is under discussion. For details see Papola (2009:427) or Devereux and Solomon (2006:23).

2000). The similar concept took place in India in the 1970s where it was used as part of food security measures and finally since 1990 they have been used as a component of poverty alleviation policies.

The rehabilitation of these programs in the 1990s responded to recent problems in the LDCs. Glaude and Watzlawik (1992:3) warned about a risky trend in developing countries described an example of Sub-Saharan Africa where "the annual population growth is expected to remain constant at about 3.2 per cent" in the 1990s "while labour absorption is not likely to exceed 2.2 per cent". However, according to info-bases of UN Population Division and UN Data the real African population growth was 2.49 per cent for that decade, but the average annual GDP growth did not exceed 1%. This is growth unsatisfactory to absorb such a growing workforce. Hence there is the incidence of the cumulative problem of unemployment and thus poverty in Africa; and probably not only there. On the other hand, developing countries faced development bottlenecks based on poor public infrastructure of the state, because "A country's roads and water systems are the foundations on which economic activity takes place" (Rioja, 2001:1). Taking poor infrastructure and excess of labour supply together there is wide room for diverse public works programs – especially labour-intensive ones with an inferior capital-labour ratio and potential for maximum labour force absorption.[15] Moreover self-selection screening mechanism became widely applied for labour recruitment into these programs to inhibit high transaction costs and transfer most of the resources towards the poorest quintiles. This fact drives us to the first income redistribution dilemma of self-targeting programs.

2.2.1 PARADOX OF SELF-TARGETING

All authors agree that the strongest screening factor in self-targeting measures is the wage or benefit distributed under one single program. Looking at the large-scale list of private participation costs one would have no doubt about the sufficient factors for exclusion of the non-needy. But "even if the poor are screened well, forgone incomes may be so large" and other burdens so unacceptable that the cost effectiveness of concrete program can be undermined (Ravallion, 1991:157). This fact highlights the first major dilemma in the case of self-targeting schemes: whether to take a stand on

[15] The capital-labor ratio is the percentage of capital to labor in a business, industry, or economy. Capital-intensive businesses, industries, or economies have a higher capital-labor ratio than those who are labor-intensive.

perfect targeting (*vertical efficiency*) or whether to cover a wider population and redistribute larger benefits (*horizontal efficiency*) (Devereux and Solomon , 2006:7).[16]

In accordance with rule of worthiness, targeting should be precise so that there is only a minimum of resources leakage to the better off citizens. This imposes a downward push upon wages paid within the program. The compressing effect already been described by Lewis (1954:6) who investigated that "the wage which the expanding capitalist sector [in our case wages under public works programmes] has to pay is determined by what people can earn outside that sector" in the given developing economy. For instance in underdeveloped remote areas of particular developing countries where the poverty is widely spread, wages for full time employment under public works are "not higher than the market rate for unskilled agricultural labour in a normal year" (Samson, 2006:104). However, if wages are set very low there might be lack of interest in participation, because the wage paid is not consistent with net benefit for a particular participant. The indirect private cost of participation is just too high. Thereby any planner of self-targeting screening mechanisms is a price receiver. The wage paid should be only slightly above the local subsistence level is considered perfect targeting.

Conversely, a designer does not need to be concerned about targeting accuracy so the wage paid under public works might attain the socially determined local minimum wage. This will lead towards higher program expenses, advanced participation and elevated outputs. From Lewis (1954) and also Glaude and Watzlawik's (1992) points of view this would be desirable, because the state, as the executive and implementing body, represents the role of the employer with great market power. Giving jobs to the unemployed masses reduces the effect of unlimited supplies of labour and would contribute to private surpluses. Many countries assume their role in remote rural areas as crucial for further development. The decisive factor is not only the wage paid, but the programs coverage (enough to influence the local market) and the durability of interventions. However it is unfeasible to achieve all objectives equally. For instance there is the Indian experience of relief work program that changed its design (raise the wage paid) and hence its role and objectives.

> "In the first 15 years of the Maharashtra Employment Guarantee Scheme, the low minimum wage moderated participation in the programme through greater self-selection of the very poor. The national minimum

[16] Ravallion (1991), on this point used the term WIDCOV – wide coverage with flexible wage; and LIMCOV – limited coverage at a socially determined minimum wage. It is also mentioned in Devereux (1999:63).

> wage increases in 1988 doubled the programme wage, dramatically increasing worker interest in the programme, even among the less poor. Programme funding did not increase commensurately, and the higher wage cost forced a reduction in the number of person-days of employment generated" (Samson, 2006:104).

Increase of wage paid in this case weakened self-selection screening mechanism. Moreover it reduced the employment opportunities within programs and thus harmed the most disadvantaged. Once the particular poor person is identified (she identifies herself) within program, the benefit that is transferred to her is just the same as the wage she is willing to work for in given time. And this wage or benefit cannot be enhanced even if the designer would will to pay. This is the self-targeting paradox. Identification of those in need is effective, but the options how to help them is limited to wages paid under given program. On the other hand the bona fides to reward the most deserving by paying a decent wage is met with either multiplied financial expenses for programs or limited access to them. Designers of public works programs should prioritize among objectives when planning, because the more objectives a program has, the more likely it is that it will not achieve any of its objectives.

2.3 OBJECTIVES OF PUBLIC WORKS PROGRAMMES

As chapter one points out, the targeting phenomenon appeared simultaneously with SAPs, because universal protection of poor households was not allowed to keep going. The lack of protection for the poor revealed their high vulnerability to adverse challenges. Lustig (1997:3) provides three types of adverse challenges with serious impacts on household consumption: (a) commodity-price induced shock; (b) macro shock (in monetary level); and (c) natural disaster. In these cases public works programs with self-targeting screening mechanisms (self-targeting PWs) can strive for diverse objectives. Regarding Lustig's (1997) challenges, the first apparent objective of self-targeting PWs is the substitution of income and the provision of short-term livelihoods. In most cases this curatively based objective is largely emphasized among these programs.

Some self-targeting PWs operate with the second subordinate objective concerning assets creation.[17] In contrast with universal schemes where there is no requirement to pay off; in the case

[17] For instance Indian NREGA (National Rural Employment Guarantee Act) issued in 2005 in its revision 2008 features its first goal: "Strong social safety net for the vulnerable groups by providing a fall-back employment source, when other employment alternatives are scarce or inadequate." However the second one concern

of self-targeting PWs there is a potential for repayment through the outcomes from workload. Considering Lustig's adverse challenges (a) and (C), created assets such as (for instance infrastructure and risk reduction measures such as dams) could contribute to reducing or even eliminating their impact. Taking terminology from previous chapter, self-targeting PW could achieve preventive or promotive objectives simultaneously with primal protective ones. Glaude and Watzlawik (1992:15) advocate the comprehensive objective mix because "the social dimensions of adjustment [to the shock aftermath] cannot be separated from a wider economic and social development strategy which links poverty alleviation with employment generation, the creation of assets for poorer groups and better use of local resources". Ravallion (1991:164) refers to other seemingly unrelated objectives, which might be achieved through self-targeting PW. Above all he emphasizes the reduction of "exploitative labour relations at the village level-discriminatory wage rate differentials, such as between men and women, between migrants and local workers, and across caste divisions that arise from the monopolistic powers of large landowners".

Looking at the benefits portfolio one would vote for PWs unconditionally (and that is why it is still very popular among policymakers). Although some objectives seem to be incompatible, such as a reduction of current "local employment now [under public works programs], or ensuring more permanent employment in the prospects through sustainable assets" (Glaude and Watzlawik, 1992:12). The concern should be especially devoted in the self-targeting screening mechanism and the returns of assets created under such PWs. The distinction of circumstances in which self-targeting PWs are applied should be more specific than the Lustig's (1997) one.

2.3.1 POVERTY ALLEVIATION OR ASSET CREATION DILEMMA

There is wide consensus among authors about this trade off. And most of them tend towards the consideration of public works programs as an alleviation tool (Bardhan, 1996; Lipton and Yaqub, 1998; Devereux, 1999; Ravallion, 1991 and 2003; Coady et al., 2004). Papola (2008:427) discouraged other objectives except alleviation purposes by saying that "it is argued that the creation of permanent and durable assets requires the use of technologies that employ less labour and thus create smaller amount of employment." Smaller employment in terms of poverty alleviation signifies a lower extent of income distribution among poor and thus a reduced impact upon current poverty consequences.

assets creation: "the Act seeks to strengthen the natural resource base of rural livelihood and create durable assets in rural areas" (Ministry of rural development India, 2008:1).

Regarding the previously described trade-off the concept of *Labor Based* PWs occurred to maintain both objectives (poverty alleviation and asset generation). Governments simply reduced the share of labour expenses within programs budgets to 60 per cent at maximum. Glaude and Watzlawik, (1992:4) claim that labour based methods might be cost-effective in urban areas ,"particularly in the context of rehabilitation works in run-down areas (road improvement, drainage, solid waste treatment, repairs of water supply systems, some types of building construction, etc); they can also contribute to the improvement of living and sanitary conditions in poor neighbourhoods and squatter settlements". International Labour Office (ILO, 2003:3) even impeaches the redistributive effect of paid employment on poverty reduction and emphasizes "the benefits of the infrastructure created and its collective ownership". Assets created simply bring higher welfare than income redistributed within programs. Contrary to that, there are opinions about cost-ineffectiveness of labour intensive public works in assets creation or maintenance, for instance represented by some governments such as South Africa (Thwala, 2005). Another question is whether the good created under the program were worth the foregone ones which would generate private sector instead. There is a lack of evidence in Samson (2006), who turns his attention to the Besley and Coate (1992:260) model that impeaches positive assumptions. "The cost of using workfare is that public-sector work "crowds out" private-sector work, increasing the size of the poverty gap and the costs of poverty alleviation".

The reason for such inconsistent evaluation of whether those programs are effective or not; and in which spheres consist in estimation difficulties of overall impact. In other words there is no unanimity about how to evaluate the asset contribution created by programs and other second round effects of such schemes. Furthermore authors are not unified about the secondary objective weight in certain PWs and hence it affects their final judgment. Nevertheless it will be interesting to put self-selection recruitment mechanism upon PWs designed towards asset creation to examine whether this combination lead towards growth or not.

2.4 CONCLUDING REMARKS

In this chapter the self-targeting or self-selection screening mechanism was presented on the first place. The principle is to let would-be applicant choose her/himself whether to take part or not. But the participation is not free of charge. She/he should give up something such as quality preference or contribute something in form of work for instance to obtain benefit. Self-targeting programs are intentionally designed in such a way that the cost of participation is acceptable only for those who are truly poor. However there is paradox of self-targeting always present in programs, because it

has a potential to help the given poor only a little. Designer of such a scheme is price receiver, because she/he has to take into account the lowest wages paid in the given area.

The renaissance of PWs occurred in developing countries with the growing unemployment rate and need for their absorption in labour market. In the same time PWs seem to be interesting and not expensive instrument that can rebuild country infrastructure and initiate growth of Gross National Product (GDP). However the application of PWs in actual situation of last 60 years revealed that there could be other objectives such as poverty alleviation or empowerment of the poor. One of the major dilemmas among objectives represents relations between poverty alleviation and poverty reduction or asset creation respectively. However authors do not conclude about the one single-valued option. The next chapter will examine diverse assets according to their ability to contribute to growth. Then we will be able to claim whether PWs with self targeting screening mechanism are able to contribute to growth or not.

3 ASSETS AND THEIR FUNCTIONS

Apart from the income distribution in public work programmes there is a certain emphasis on assets creation. These assets are expected to originate fruitful additional income stream beneficial to the poor in long term perspective. This chapter will provide definition and division of diverse assets in accord with mixed criteria. Beside the division levels the roles and effects of chosen assets in light of the poverty reduction and growth of GDP will be described. All findings and trade-offs from this part will contribute to the final evaluation where the parameters of self-targeting public works programs and other schemes will be examined in the face of diverse conclusions across the thesis.

3.1 DEFINITION OF ASSET

In the context of living sources Winters et al. (2001) assigns the livelihood concept where assets are complement to the activities and income that individual or household repeatedly deposit and consume. Assets act as the starting point which determines the future level of returns in the single course of life. Most of the antipoverty approaches refer somehow to assets importance in development practice or directly assert asset-based methodology such as Sherranden (1991) who examine the role of assets upon household levels whereas Arefi (2008) puts assets in a community-driven development context.

The closest synonyms related to the term asset are deposit, resource and advantage with relevant adjectives such as positive, beneficial or worthy. According to Damodaran (2002:28) "an asset is any resource that has the potential either to generate future cash inflows or to reduce future cash outflows". The similar angle is also shared by Barrett and Readon (2000) who see assets as factors of production. Most of the authors, regarding sustainable poverty reduction no matter what theory they prefer to mention, state that assets of the poor have to be scaled up to achieve unfailing progress. This opinion comes from the assumption that the poor are poor because of their low productivity. Giving more assets either in form of land, knowledge or capital could multiply the people's most abundant asset – work – and enhance the final productivity leading to well-being. The diverse roles and effect of assets will be discussed later, the most important thing is to delimitate the sphere under asset's term at first.

Assets are sources of potential benefits one has control over or has access to, which are deployed upon (1) individual level such as knowledge and skills; (2) household or firm level such as know-

how, stock, currency or brand; (3) publicphere (public sphere) level such as infrastructure and common pool resources such as woods, meadows and lakes; (4) social basis related to political power, networks and social capital. Another feature of every asset is that it can always generate future benefits if it is adequately invested or maintained. As one asks what is an asset, the answer might describe the four categories above or simply respond in accordance with main asset disposition that is the capacity to generate some current, but mostly future, benefits.

3.2 DIVISION OF ASSETS ON THE PARAMETER BASIS

Basically the first gross distinction is provided by Sherraden (1991), who defines assets according to their material feature. He considers assets to be "rights and claims related to property, concrete or abstract", in the form tangible and intangible (Sherraden, 1991:100). Similarly, Goel (2002) provides two categories of social and economical infrastructure, which are in line with Sherranden's distinction but more limited because it excludes private assets, for instance. Tangible assets might be further subdivided into private and public, while intangible ones could be understood as personal and social assets.

3.2.1 PARAMETERS OF TANGIBILITY

Beginning from the highly liquid tangible private assets, money and mediums of exchange should be mentioned in the first place along with other financial products such as savings, bonds, shares. Any kind of tools, machinery and equipment follow, together with properties and land. This sort of assets, if properly invested, provides the highest rate of returns; however, it is very easy to take them away or depreciate them contrary to other asset's categories (Janvry et al., 2006). Tangible public assets include basic infrastructure such as road and irrigation networks, plus natural resources like woods, lakes etc. In this case, the decisive factor for inclusion of these assets in production process is not ownership but availability or access.

The next category of intangible assets is more difficult to stipulate exactly. In this case, the prism of ownership does not fit precisely. Assets uch as personal intangible assets include those variables an individual could control (knowledge, skills and experiences). In the literature the term Human Capital is used more often to express the stock of competencies for production of economic value. Finally, the intangible social assets in this distinction include cultural capital and the socio-economical environment responsible for informational and emotional support of citizen's life. For example, participation in woman's group might open new streams of income for participants

(Winters et al, 2001). Therefore, looking at the list of diverse assets categories, it is feasible to identify tangible public assets as a key variable in concern of public works.

3.2.2 PARAMETERS OF RIVALRY AND EXCLUSION

Instead of using broad ownership criterion for asset distinction, there is other methodology, using criteria of subtractability and exclusion for asset identification (Ostrom et al., 1994). Mankiw (1999) share the same point of view and just replaces term subtractability by rivalry. In this model, rivalry is the size to what extent one is able to usurp given good at the expense of other would-be-consumers. The more participants or consumers means the less remains for others. The criteria of exclusion refer to the fact that "the goods and events in the world individuals value differ in terms of how easy or costly it is to exclude or limit potential beneficiaries (users) from consuming them once they are provided by nature or through the activities of other individuals" (Ostrom et al., 1994:6). The limiting potential lies on the economic and legal basis (property rights enforcement and packing or fencing). However, parameters of rivalry and exclusion generate four variables (assets) relating to their combination – *Public Goods*, *Common Pool Resources* (CPRs), *Club Goods* and *Private Goods*.

TABLE 1 DIVISION OF ASSETS

Exclusion \ Subtractability	Low	High
Difficult	Public Goods	Common Pool Resources
Easy	Club Goods	Private Goods

As is seen in Table, 1 public goods are non-rivalry basedv assets which are hard to target. In other words it is difficult to exclude someone to participate in them in economical and legal sense. Public goods include diverse substances such as national defense, street lighting, social and economical infrastructure, etc. On the contrary, private goods are relatively easy to exclude but they are highly subtractible. Furthermore, private goods come into the market and thus it is easy to valuate them.

Some doubts might appear about the valuation of the intangible private goods such as human capital, but labour market ought to provide the answer for it.

The interesting phenomenon of how to share goods or assets is a model of club goods. In contrast with CPRs, where every other participant represents lesser opportunity or loss for the others, the club goods are desirable to share, because one is unable to extract permanent utility out of them. Club goods include libraries, cinemas, golf courses, swimming pools, social networks, etc (Ostrom et al., 1994). The rate of individual benefit depends on the number of club members. Sharing in this case is beneficial only when the access is conditional. The role of particular goods will be discussed later. However, in the light of poverty reduction, the common pool resources are much more important, because they provide livelihood to the poor in times of emergency. CPRs are usually exposed to everyone, but they are highly susceptible to contention. In practice CPRs are vastly liable for overexploitation accompanied by environmental calamity (Reardon and Vosti, 1995). On the one hand, every single extractor is too small and thus unable to control the whole source, hence he does not take into account the interest of the whole resource unit but only its own. Furthermore, there might appear effect of *The Prisoner's dilemma*, which can lead to fast depletion of given source and natural damages. This effect might be observable in some fisheries, for instance, where fishermen are under temptation to overexploits of CPRs in order to gain higher returns, although Ostrom et al., (1994) provides several examples of successful community-based management of CPRs.

In the context of rural economy, Reardon and Vosti (1995) provide assets division according to eventual income flows people near poverty line that could obtained from them. Among the first they mention (a) natural resource assets and (b) human resource assets which are similarly accessible or achievable for most of the poor. However, they are followed by other more scarce tangible assets such as (c) on-farm physical and financial assets and (d) off-farm physical and financial assets. While the former refers to farm products, landownership and so one, the latter variable is related with petty business or other income streams from informal sector in the cities. Surprisingly, Reardon and Vosti (1995) do not include any hard infrastructure in the enumeration despite the weight of contribution if comparing natural resources and infrastructure the proportion is in a favour of the latter one.

3.3 THE ROLE AND EFFECT OF ASSETS

Assets are variables with the potential to generate future benefits. Hence the first role ascribed to them is a productive role. However, the exploration of authors also provides a broader overview.

Janvry et al. (2006) distinguish between productive and unproductive assets. Bardhan (1996:1351) emphasizes CPR's insurance role based on the provision of substitute source of livelihood in the form of "fodder source in bad crop years", for instance. Furthermore, Janvry et al. (2006) do not limit insurance role of assets to CPRs, but enlarge it predominantly over private assets. This chapter will discuss the main features and effects of private and public assets in the light of growth and poverty reduction. The selected assets types for the chapter refer to the objectives of self-targeting schemes.

3.3.1 PHYSICAL INFRASTRUCTURE

Physical infrastructure represents family of assets in which "economic activity takes place" (Rioja, 2001:1). Apart from the travel and irrigation networks there are included electricity networks, data networks, such as telephone and internet coverage, sewage systems, dams, drinking water systems, and gas pipelines. Physical infrastructure consists of *Tangible Public Goods* when we combine categories of assets from the previous chapter. Traditionally, public sector is thought to finance, build and operate most of the physical infrastructure. However, in case of low-income countries, half of the expenses for such investment is allocated externally from international donors according to practice (WDR, 1994). Rioja (2001) shows that the new infrastructure is usually build from the external sources, while maintenance is covered from domestic public money. It is believed that development of infrastructure will increase the economic activity, economic growth, and hence the tax yields. Thus country solvency towards international creditors is ensured. On the other hand, the lack of infrastructure represents significant bottlenecks with the danger to "create significant impediments to the expansion of industrial output" (Goel, 2002:1). The importance of physical infrastructure for development is included, among others, in *Food Security* concept out of six variables on the first place (Braun et al., 1991). Hence even the debt investment in infrastructure is seen as acceptable in this light.

When the role of physical infrastructure is examined, the GDP growth fluctuation is a concern. According to Glaude and Watzlawick (1992:8), there is "high correlation between size of rural infrastructure and labour productivity in rural sector." The evidence from WDR (1994) confirms that "1 percent increase in the stock of infrastructure is associated with a 1 percent increase in gross domestic product (GDP) across all countries". Kularatne (2008:10) disagrees because "the quality of the connections facilitated by infrastructure investments may be more important than the level of the public capital stock." Additionally, it is not of concern whether or not the created infrastructure previously existed at all. The construction of completely new electricity branch across remote place

might contribute differently to growth than in brown field. Also, the time lag between investment and GDP growth matters. When government invests in infrastructure, the different outcome will be achieved in accordance with allocation between maintenance and construction of new environment. The evidence from Brazil, for instance, suggests that between 1979 and 1984 the 6,000 km of new roads were constructed, "while 2,000 km went from 'good' to 'poor' condition and 6,000 km went from 'fair' to 'poor' due to maintenance neglect" (Rioja, 2001:2291). This trend will not hasten growth.[18] Nevertheless, regarding the overall impact assessment of infrastructure upon GDP growth the quality of constructed unit, whether it is utterly new or just a replacement of the previous one, should be taken into account. Also, the allocation of resources between maintenance and new construction matters as well the as time lag of measurement.[19] According to Glaude and Watzlawick (1992) in the *Least Development Countries* (LDCs) the maintenance, rehabilitation and construction of infrastructure per se contributes anywhere between 3 to 8 per cent to the annual GDP. This statement is verifiable but to determine contribution of a single infrastructure to the growth is more unstable, because the problem of these findings is the fact that the GDP is influenced by many variables.

Still, some authors provided enumeration of pro-growth infrastructure. Adam Smith in Rioja (2001:1) claims, regarding "good roads, canals, and navigable rivers," that due to "diminishing the expense of carriage, [it] put the remote parts of the country more nearly upon a level with those in the neighbouring town". The telecommunication and electricity networks are added by the authors of WDR (1994). Canning (1993) claims that the only infrastructure which significantly affects GDP growth is the number of telephone lines (Goel, 2002). The problem of such claims is that there is a very fine line between correlation and causality. Some authors such as Kularatne (2008) impeach the simple causality between infrastructure investment and higher growth of GDP by saying that the process of influence is mutual. But the discussion about whether certain infrastructure contributes to growth or not is not right. Even when some "useless" variable is identified, it does not mean that it has no pro-growth potential. The only information one could obtain from a given case is that in the concrete circumstances the infrastructure potential is not utilized due to internal or external factors such as lack of other assets combinations available. Thus investment in physical

[18] Rioja (2001:2282) claims that some found the "empirical support in developing countries for current public expenditures (like maintenance) having positive effects on GDP, while capital expenditures (like new infrastructure) have negative effects on GDP".

[19] The "results show that the highest gains in output are obtained when maintenance receives about 2 per cent of GDP and new public investment about 4.0 per cent of GDP" (Rioja, 2001:2296).

infrastructure "probably enhances economic growth but we are less certain about the magnitude of the effect and direction of association between infrastructure and growth" (Kularatne, 2008:11).

Calderon and Serven (2004) mentioned telecommunications, transport and power sectors as a significant output contributors among infrastructure assets. This kind of infrastructure represents savings on the side of companies' inputs with the potential to generate higher returns and outputs. Advanced infrastructure stock has impact also upon savings of time. The sharing of the time savings benefits, however, will be distributed more equally among "travellers, property owners and consumers and workers" (Mackie et al., 2001:97). Moreover, infrastructure in general decline inequalities in the society. It has a compelling impact upon education and health care accessibility and quality (Calderon and Serven, 2004). The electrification in Philippines increased returns to education by 15 per cent, while in Morocco, areas with enhanced road stock recorded double increase in using health care facilities and higher girls' enrolment ration in primary schools (WDR, 2001). On the basis of similar findings, "we conjecture that a major portion of the per-capita output gap that opened between Latin America and East Asia over the 1980s and 1990s can be traced to the slowdown in Latin America's infrastructure accumulation in those years" (Calderon and Serven, 2004:4).

In reference to the pro-growth physical infrastructure potential, one might ask whether it is always pro-poor at the same time, or not. "For instance there may be strong demand for energy from emerging private sector with the ability to generate employment and tax revenues, but not located in regions, where the poor live" (OECD, 2001:82). Hence the best allocation for growth does not obviously coincide with the optimal aggregation for the poor. Furthermore, according to Goel (2002:30) findings, the economic infrastructure increase "capital using but [it is] labour saving and intermediate input saving".[20] In case of Collier's (2007) *Bottom Billion,* the labour saving effect might represent serious blockage in poverty reduction effort, because these people are lacking in social and human assets, therefore they are most disadvantaged to pursuit inelastic demand of growing capitalist sector.

Ultimately we are sure about the infrastructure involvement in growth of GDP, but unfortunately we are not able to estimate the volume of this contribution. Also, not every infrastructure investment would generate growth or lead to poverty reduction. However, there is evidence that physical infrastructure is highly complement to social infrastructure and hence drives down inequalities in

[20] Physical infrastructure comes under term of economic infrastructure which involves in addition banking services and financial networks (Goel, 2002).

society. This finding varies in time. Moreover, the poverty reduction objective might not be in accord with GDP growth maximization aim. Hence even the apparently clear enterprise entails trade-offs.

3.3.2 SOCIAL INFRASTRUCTURE

Social infrastructure represents predominantly the family of assets, in which contribution to welfare is very important but difficult to measure (Kularatne, 2008). According to Treich (2006), the social infrastructure assets provides services that "contribute to the overall well-being of the population and the skill set of the labour force (such as hospitals, schools, housing and prisons)". In other words, it cares about the human capital and social cohesion. Human capital is determined by health condition and the level of knowledge or experience while the social cohesion represents the relationships among individuals. Apart from the (1) quality and (2) time variables, the key determinants for proper functioning of social infrastructure in general are (3) access criteria related to the rights and entitlements; (4) distribution criteria referring to coverage; and (5) synergy criterion in respect to combination of diverse social assets. Regarding education, for instance, better quality and longer durability suggest more suitable preparedness for labour market. However, obstacles in accessibility, such as tuition fees or distance of educational institution, can exclude plenty of would-be participants. Moreover, even the high quality of education does not necessarily ensure stable and rentable employment when the social capital or networks are not functioning in reference to synergy effect (Krishna, 2007).

The same deduction may be applied to health care facilities. Regardless of the above argumentation, the importance of heath care system is emphasized in survey carried out by Krishna (2007), because, according to his findings, between 60 to 88 per cent of households fell into poverty due to poor health in given developing countries. Hence one might conclude that the lack of health care facilities impedes development. However, the unsatisfactory health state may have other causes than lack of healthcare facilities. Ravallion (2003) considers the reduced nutrition (in quality and quantity) to be the reason for poor working performance and higher rate of illnesses among deprived peasants. Moreover, poor health condition impedes the returns a person is able to receive out of his/her work and thus it significantly influences the total household wellbeing in consequence. This experience refers to the mutual interdependence and antagonism of diverse variables which will be discussed in last part in light of self targeting public works programmes.

The very interesting component of social infrastructure is represented by social networks, peer groups, clubs, professional associations, churches, and political parties. They are an integral part of the public sphere and create positive externalities such as parks maintenance or consumer rights protection. Apart from its external sight that back up social cohesion in the society, they are beneficial for their members or clients. From the development points of view, social networks are key assets in the "portfolio of resources drawn on by poor people to manage risk and opportunity. They are also key assets for the rich, who advance their interests through such organizations... ...but their relative importance is greater for poor people." (WDR, 2001:129). Especially, the importance concerns the informal social capital, which can generate "tangible support, emotional support, information and easier access to employment, credit, housing or other types of assets" (Sherraden, 1991:212).

The social infrastructure, as well as economics infrastructure, contributes to growth – it is productive. While the physical one is labour-saving, the social one is labour-using. "The marginal benefit of social infrastructure is higher than that of economic infrastructure and net rates of return are also higher for social infrastructure" (Goel, 2002:30). The key variable in light of poverty emergency is the time aspect. Any investment in the so-called most reproducible assets (social infrastructure) in long-term period might be diluted in favour of measures towards current amendments of adverse shocks. But only long-term social infrastructure investment can bring sufficient supply to the growing markets.

3.3.3 PRIVATE ASSETS

Public or social assets are not the only inputs in poverty reduction discourse. The role of private goods (assets) stock is generally accepted above all in the context of the *Dynamics of Poverty* (Ravallion 2003). Dynamics of poverty is a concept which pays attention not only to the upward, but also to downward movements across the poverty line. Janvry et al. (2006) appeals to Krishna et al. (2004) who provides evidence from the Indian state Andra Pradesh, where government programs helped 14 per cent of the poor to move out of poverty, while 19 per cent of the non-poor fell under the poverty line within the same period due to diverse adverse shocks. The evidence of such phenomena implies that people near poverty line are very sensitive to transition shocks. According to Bardhan (1996), this sensitivity is conveyed through the imperfections of credit or insurance market in remote rural areas. Hence the prevention makes poor choose costly private adjustment which keeps them in poverty trap. The scientific dispute is divided in the preference of causes between those who charge against market imperfections or lack of safety nets, Morduch (1994), or

Ravallion (2003), and those, such as Janvry et al. (2006), and Barrett (2004), who see lack of assets as the primary cause.

The lack of insurance institutions in developing countries is fact. When the adverse shock is expected, poor people are trying to avoid its impact or at least alleviate the consequences. This has an influence upon the accumulation of household assets basically towards diversification. According to Janvry et al. (2006), diversification is one of the most used *Copying Strategy* that either ex-ante or ex-post poor carry out to react to adverse shocks. Poor household are trying to keep some assets apart from the livelihood as a precaution. Thus they do not use the complete potential of held assets. Moreover, when the side assets are depleted in response to shock, the capitalized assets are in order and the attention is turned also towards CPRs. This stadium is almost close to the transition point which, once exceeded by the poor, the way back become very difficult. Janvry et al. (2006) named this phenomenon *Excessive Decapitalization*, because poor household consume out their productive assets. In case of the rural poor it could be withdrawal of children from the school, eating seeds, reduction of doctor visits or infant nutrition, selling craft tools etc. The problem lies in the high re-entry cost when the household want to renew livelihood and other activities. Moreover, some assets used in rural livelihoods are characterised by high rate of *Fixity* which means they are useful just for some seasonal particular activities (Barrett and Reardon, 2000).

The evidence about assets held by poor proves that they are underutilized because some part of them is not fully capitalized due to anticipated shocks. Flatter allocation of resources (assets) does not allow poor household to specialize, hence there are other unrealized yields. The third problem in light of transitory shocks is the low liquidity of assets that poor people possess. Hence the options of how to react to shock are limited. However, diversification of assets is a two–sided measure. The positive side protagonist Krishna (2007) demonstrated, on the basis of 25,866 households across different developing countries, the role of diversification in escaping poverty. Among all factors, the spatial migration would have been the most contributing one, according to Winters et al (2001). Especially in this case the complementarity of social assets is irrecoverable.

3.4 CONCLUDING REMARKS

When authors appeal for scaling up the amount of assets among the poor for poverty reduction, the question about the most fruitful types of assets occurs automatically. Governments can contribute by enlarging public economic and social infrastructure, or through redistribution of other assets (such as vouchers, currency or diverse goods). Most of the authors would agree that the more assets

are available, the higher the utilization of the single one. Goel (2002) uses term *Aggregate Infrastructure,* consisting of *Economic Infrastructure* (physical infrastructure inclusive of banking sector), and *Social Infrastructure* (including health and education sector), to describe the synergy effect, which back up more efficient utilization. Regarding to findings in this chapter, there is an assumption that investment in physical infrastructure is not susceptible to temporary breakdowns of finances. Moreover, the flexibility of investment (boosting or cut) in this kind of infrastructures allows for easier adjustment to current circumstances contrary to social infrastructure, which requires stable longterm financing in order to be effective. Private asset, as the third representative component of assets government can redistribute, is the key variable in copying strategies among people around the poverty line. However, the rate of redistribution and the state role in the assets delivery should be further examined.

4 PUBLIC WORKS IN THE CONTEXT OF DEVELOPMENT AND POVERTY ALLEVIATION

The first and the second chapter of this thesis provided us an overview about two basic redistributive schemes - universal and targeted. The third chapter introduced diverse groups of assets that have influence upon livelihoods of the rural poor. While the early chapters advert to budget constraints and objective tradeoffs – especially under a self-targeting, screening mechanism – the previous part solely distinguishes particular assets and their allocation in the contexts relevant to the poor in general and poverty reduction. The pretentions from both sections are matched in this chapter. Hence the question whether or not public works with self-targeting screening mechanism are able to generate sustainable assets that contribute to development will be examined thereinafter. The essential construct for the conclusion results from the book *Employment for poverty reduction and food security*, edited by Braun (1995). Very useful is also ILO's discussion paper No. 5 written by Devereux (2002) called: *From Workfare to Fair Work.* Basically both authors put public works schemes in different circumstances and consequently inherited outcomes. The similar practise will be realized here with regard to the thesis purpose.

4.1 INITIAL CONDITIONS

As it was mentioned in chapter 2.2 - Public Works, there is growing gap between population increase and labour market absorption in developing countries. Nafziger (2006) explains, that recently developing countries absorb between 25-35 per cent of increased labour force while European states did around 50 per cent in 1900s. Therefore these countries deal with growing numbers of unemployed and a largely underemployed population. In the LDCs the worst estimates are around 50 per cent of population being fully or partly unemployed. The incidence of poverty reflects this trend. In the LDC's that export raw materials and primary commodities (except oil products) the share of the population living in extreme poverty increased to 69 per cent between 1997 and 1999. The total amount of people living on less than 2 USD per day came to stay at 87 per cent in the same time (UNCTAD, 2002) and decreased to. The understanding nature of poverty burden differs in regard with territory. Poverty is considered to be worse in rural areas. But at least there is the subsistence sector more available as a resource of livelihood of last resort. Still, with regard to African LDC's the share of the labour force living in rural areas remains at 64 per cent of the total country's manpower (UNCTAD, 2008). Hence the solution for poverty reduction lies in these areas.

4.1.1 LIVELIHOOD DIVERSIFICATION AND THE NEED FOR INFRASTRUCTURE

It is inducing to say people living in rural areas depend mainly on farm activities. Although many authors such as Winters et al. (2001) confirm that recently, non-farm activities generate around 40 per cent of total household income in rural Latin America. According to findings of Barrett and Reardon (2000) the share of non-farm income in African rural areas reaches nearly 50 per cent. Diversification of income sources became an obvious strategy of rural households to avoid earning fluctuations during the year and to reduce risk out of uncertain crop yields. Furthermore, and with regard to population growth arable land became scarcer and as such pushed households to seek income sources elsewhere. Naturally these trends initiated demand for a new or more effective infrastructure, transport and data communication facilities in rural areas (Braun, 1995). In the absence of proper infrastructure the diversification of household portfolios produce low marginal returns, because most of the goods and services are satisfied through its own production and do not enter the local market (Barrett and Reardon, 2000). Diversification is "processes by which households construct a diverse portfolio of activities and assets to survive and improve their standard of living" (Winters et al., 2001:3). Households and companies round the world carry out the same strategy in their daily decisions, but in the absolute absence of infrastructure it does not lead to any advance. The reason why asset and activity allocation is problematic in remote areas in developing countries is that it does bring very low marginal returns. Therefore it strangulates local markets and prevents households from enjoying their comparative advantage and returns from the economy of scale (Janvry et al., 2006). Often involuntary diversification refers to the underdeveloped banking sector in rural areas as well as to the limited role of government in social spending. Again the lack of infrastructure (physical and social) is seen, beside the low population density, as main obstacle in the penetration of any development into remote areas.

4.1.2 THE MIXTURES OF GOVERMENT STRATEGIES

When the decision maker considers what type of intervention to choose, she/he has to take into account whether the given program will be pro-growth or pro-poor. "Poverty policy generally aims to improve the asset holdings of the poor, either by endowing them with additional financial, fixed, human, natural, or social assets, by increasing the productivity of assets they already hold, or both" (Barrett and Reardon, 2000:3). On the contrary, straight pro-growth policies take into account predominantly pro-export measures, which do not always have to be in a favour of the most disadvantaged. The fundamental is the criterion of time in this trade off, because it matters in strategic planning and priority settings. Basically both pro-poor and pro-growth policies can be

divided into those with immediate but less sustainable outcomes and those with slower start and more sustainable effects. In the boxes of Table 2, there are examples of programmes with the highest absorption of labour force in accordance with given variables. Maximal integration of unskilled labour force is a function of these strategies. The content of every sector is not as important as the criteria that influence it.

TABLE 2 TRADE-OFFS BETWEEN STRATEGIES

Pro growth \ Pro poor	Slow and sustainable	Instant
Slow and sustainable	Growing small scale private enterprises in manufacturing and services. **I.**	Road attachment of remote areas or importation of electricity and telephone signal **II.**
Instant	Boosting manufacturing zones for export **III.**	Investment in infrastructure that enables more effective raw materials exploitation **IV.**

The surest option is investment in human and social capital, however with expected belated effect. At least the delays are the subject of years spent in school attendance. This is concerned mainly about the sector I. including private enterprises that indicate strong economy and ensured tax revenues (Braun, 1991). Fafchamps and Quisumbing (1999) clearly proved, through regression analysis among Pakistan peasants that higher education does not lead to higher crop yields per se, but contributes to the higher off-farm returns. Hence it supports the enlargement of markets in rural areas and attracts capital (Winters et al., 2001). Krishna (2007), on this point, emphasises the state of a citizen's health; when it is neglected it can slow down the whole economy and keep people in poverty and vice versa. Investment in social infrastructure or human capital always reduce inequalities and thus raises country growth and poverty reduction in the long term. The proper and

long term investment in human capital is fully visible in the country's middle class and its share in the total population. Small scale enterprises might also be effectively supported through banking services, but this sphere is out of the scope of this thesis. Contrary to programmes related to human capital building, the most instant pro-poor and pro-growth activity is related to natural resources extraction and export included in sector IV. of Table 2. The tax revenues and income from the international trade of raw materials, if reinvested, can theoretically administer to poverty alleviation and economic growth. Nevertheless the late dispute among authors about the natural resources endowments in growth pursuit became rather critical. Collier (2007) for instance speaks about the *Natural resources trap*, which impede economic growth and undermine the democracy and stability in the country on a long term basis. This argument is based on the evidence of mostly African countries, although the exceptions of countries that successfully managed their natural assets exist, for example in Botswana.

The following options in sectors II. and III. from the Table 2 represent trade off. The growing labour force might be absorbed only through an export oriented manufacturing sector. From the point of view of the poor peasant in a rural area this kind of investment would barely affect her/him immediately. But as soon as the information about work opportunities would reach the household, one member will be sent to the factory with an income diversification strategy. Thus, in a long term point of view, even remote areas can benefit from the export processing zones for instance. Moreover the higher productivity the more spread the industry would be in remote areas due to spill over effect (Goel, 2002). Still the sustainability of such factories depends on "the ability to absorb new technologies" which "are directly related to the stock [and quality] of domestic human capital" (Tybout, 2000:17). An accession and sustainability rate depend predominantly on the government credibility, tax and trade policy offered. Once discredited, trust will prevent industrialization of the country, such as in Madagascar, where a contest to power destroyed large export zones (Collier, 2007). The advantage of the manufacturing option lies in the feasibility to use public works measure for their construction and thus absorb some portion of available workforce immediately.

In the last box No: II. there is an activity which will not, in the short term, significantly enhance economic growth but positively influence livelihoods in remote areas. The attachments of rural roads to the national route networks contribute to growth of farm productivity and nonfarm rural employment, for instance. However lately the returns from rural enterprises might rise significantly such as in China where the 18 per cent of the national labour force in rural areas produced more

than one third of the national GDP (World Bank, 1994). The capitalized goods and services finally spill over through new or reconstructed infrastructure and contribute to national growth, but "the time it takes for public capital to affect GDP growth may be considerable" (Kularatne 2008).

Looking at the diverse options a policymaker has (Table 2) in a given developing country there are few interesting features. All interventions are originally trying to retrieve market imperfections. However the only strategy that supports a growing small scale enterprise sector does it indirectly through increasing human capital. This strategy is disproportionate to others in time and funds. From the allocation points of view the education and health care sector should represent pivotal concentration of resources, while the other three stand for a supplemental role only. Regarding the dispute in the first chapter about universal schemes retrenchment in developing countries the following expenditure cuts of the state had affected mostly sector of social infrastructure caring about human capital. In many LDCs states declare "education for all" and "primary health care for all" while "the means for reaching them are highly selective" (Mkandawire, 2005:16). The worse accesses to education and health care, the more other governmental investments are inhibited. The remaining three (II. III. VI.) strategies deal with poverty and growth through direct donor engagement. The nature of such interventions is transient. They try to develop physical assets that have potential to increase the productivity of assets which poor people dispose with. Moreover physical infrastructure should enable households to specialize instead of unprofitable diversification. The most advantageous on the physical infrastructure building is the fact that it can be effectively and cheaply constructed through capitalization of local resources (contrary to the social infrastructure endowment). Apparently there is opened room for utilization of widely available man-power surpluses for capital formation (Lewis, 1954).

4.1.3 INVESTMENT THROUGH PUBLIC WORKS

Authors such as Ravallion, Devereux, Braun, Glaude and Watzlawik use different terminology for the similar PWs schemes. The most integrated approach present Devereux (2002) who divides public works into the *Labour Based* and *Labour-intensive* ones. Ravallion (1991) share the similar distinction. On the other hand he focuses on the assignment of both programs according to their functions. While LIMCOV means programs with limited coverage but with set wages at social determined minimum, WIDCOV, on the contrary, regulates wages paid according to the estimated participant's turnover. The similarity with Devereux (2002) is evident. His *Labour Based* PWs are characteristic for capital-labour ratio around 4:6. The employment potential has limited coverage

but the wage is set at a socially determined minimum norm. The main purpose of the program is to create infrastructure and durable assets beneficial for poor that can initiate growth.

The concept of *Labour-intensive* PWs tries to employ as many people as it is possible (the capital-labour ratio could reach 1:9), but it is simultaneously its main purpose. The asset creation is on the subordinate position; the wage paid is flexible and very low and the employment coverage maximal (WIDCOV). Basically WIDCOV is the most likely used self-targeting screening mechanism for employment. The capital-intensive programs which were used for construction of new roads in developing countries in the 1990s are on the opposite side of the previous couple, because employment is not in concerned; they require higher foreign currency and do not utilize local resources (Braun, 1995).[21] So, there are three categories of programs starting from the capital-intensive and labour-Intensive that are in straight opposition. Finally there are labour-based programs situated rather in the middle but closer to the labour-intensive PWs on imaginary line. The choice of proper investment programs depend on the current conditions whether a country is stable or in some kind of emergency situation. Moreover the final form of the program comes from the political conviction about the space for negative freedom and the threshold for positive freedom intervention (Swift, 2005).[22]

4.2 ASSET CREATION IN NON EMERGENCY TIME

Governments, in addition to the more or less stable endowments to health care and the education sector, might wish to speed up the growth of the national GDP and reduce poverty. The trade-off lies in what aim will be achieved earlier (growth or poverty reduction as Table 2 shows) and the total time that would be needed to achieve both of them. In this thesis the attention is devoted to the problematic of rural poverty, hence the infrastructure building in remote areas is in focus within this thesis (sector II. Table 2). The remarkable is also whether a self-targeting employment screening mechanism is applicable in public works designed for asset creation and thus for development.

[21] Labour based programs are 10-30% less costly, reduced foreign exchange expenditures by 50-60% and increased by 240-320 % employment against equipment based (Braun, 1995:278).

[22] Negative freedom is space that state gives to individual without any interference, because it is believed that any individual know in the best way what to do and how to do it. The positive freedom concept comes contrary from the conviction that individual do not always know or want the best for him. Hence there is state, who in the name of individual or society interest, prescribe to individual what to do, and how to do it. In our case the respect to negative freedom leads government to invest in infrastructures, which enable individuals to utilize fully their freedom. The opposite approach would attempt to endow directly poor by some assets in exchange for desired behaviour. In our case positive freedom approach is observable in conditional transfers for instance.

According to Table 2 and its II. sector, the rural electrification or remote road attachment to the national networks are a pro-poor measure which does not lead to instant but rather to slow and sustainable GDP growth (World Bank, 1994) and gradual poverty reduction (Thwala, 2005). "It is argued that creation of permanent and durable assets requires the use of technologies that employ less labour and thus create smaller amount of employment" (Papola, 2008:19). This claim is against self-targeting recruitment. In other words the work cannot be offered to all who apply. Some authors argue that even programs with minor capital and a major labour component can produce assets with significant returns such as small scale irrigation canal building (Krishna, 2007; Papola, 2008) or local commons (Bardhan, 1996). But without reliable road attachment, "telecommunication, electricity and public water systems" spatial development will not begin (World Bank, 1994:14). The friction area here appeared in the water investment and it will be discussed later. The mentioned assets are not important from the consumption points of view, but for their potential to raise production and enlarge markets. Building of such assets require higher share of capital, trainings for wage workers and organized working groups. With regard to the capital-labour ratio the share of capital is moving between 4:6 to 6:4 (in contrast with labour-intensive public works capital-labour ratio equal almost 1:9). Wages paid under such programs are close to Devereux's (2002) concept of *Fair Work* which rests in payment of decent wages to certain limited working groups. This kind of programs "attempts to optimize employment meaning, that the objective of creating employment is prioritized but without compromising efficiency or the quality of the work itself" (Devereux, 2002:2). It is based on presumption that "poverty reduction is not normally achieved through the creation of paid employment, but through the benefits of the infrastructure created and its collective ownership" (ILO, 2003:3). In other words the future poverty is in focus (Coady et al., 2004). Concept of labour based PWs or fair work help people to overcome obstacles and structural forces in their climbing effort out of poverty (Barrett, 2004). Again the described emphasize on limited numbers of participating workers, higher wages and focus on future poverty reduction disqualified pure self-targeting screening mechanism for labour based PWs.

4.2.1 THE IMPACT OF LABOUR BASED PUBLIC WORKS

The final impact of rural infrastructure, beyond a program's priority, depends on the Goel's (2002) *Aggregate Infrastructure* outcome or upon the S*ynergy Effect* between human and physical capital (World Bank, 2001). Again the importance of universal schemes is evident, because without healthy and educated society the returns on the assets are limited. Devereux (2002:20) and Lipton (1998) suggest to measure the total impact of PWs through a sum of net income transfer (gross transfer

minus the opportunity job cost) with a multiplier effect (new small enterprises) and the capital affect (usage of assets). Concerning net wages in the case of labour based PWs the final loss probably does not exceed 10 per cent of the transfer, because the estimates for the LIMCOV schemes count for a 30 per cent loss (Lipton, 1998) and maximally 50 per cent loss of gross transfer according to Ravallion (1991). Moreover limited coverage reduces the number of successful applicants for work. Labour based PWs are originally not in charge to supplement a capitalist sector in rural areas. The multiplier effect is hardly to quantify. It is initiated through wages received under programs that are spent in the local economy. The higher wages are set above the consumption needs of participating households and the longer program is implemented, the higher is the likelihood for generating surpluses used in reinvestment. Food transfers do not generate as high a multiplier effect as the cash transfers do and they are not adequate in this case. The durability of multipliers is however tightly related with length of such program. Once the program terminates the attached enterprises close. The critical concern about program fruitfulness rests in the savings and benefits that the constructed assets bring about.

> "The physical infrastructure constructed or rehabilitated by public works programmes includes rural feeder roads – about 75% of Lesotho's road network was constructed using food-for-work (Shaw and Clay 1993) – boreholes, pipelines and microdams; afforestation, and clinics, schools and teachers' housing. Each of these assets contributes to economic development in different ways" (Devereux, 2002:32).

According to World Bank (1994:17) evidence from 1974 to 1992, the highest financial rates of return represent assets in telecommunications (around 20 per cent). The same confirms Goel (2002) in his study survey. The next position is filled by transport infrastructure (19 per cent)[23] and it is followed by irrigation and drainage investment (from 13 to 17 per cent). With regard to poverty reduction the most effective investment was in irrigation betterment. According to Krishna (2007) from 25 to 27 per cent of rural households in his cross countries survey escaped poverty due to higher yields promoted through better irrigation. From the development points of view the economic infrastructure contribution is weighted by 70 per cent while the social infrastructure by a remaining 30 per cent (Goel, 2002). Among the benefits of road infrastructure building and maintenance there are "reduced travelling times, reduced travel costs, and the price effects associated with market integration – reduced transactions costs increases profit margins"

[23] The highways and airports are included within this indicator. The feeder roads would probably not generate such high return.

(Devereux, 2002:30). As it was pointed out in part 3.3.1. about Physical Infrastructure the returns from assets created under a labour based PW are inevitably subject to social asset advancement. However quality and accessibility of social assets is depended upon the extent of universal schemes (education and health). Again the asset creation focused PWs are only supplemental to the large universal programs.

The final return on created asset is influenced tremendously by planning, management and implementation. According to Thwala (2005) the lackof expert engineers in planning affected adversely the outcomes of PW in South Africa. Moreover the inclusion of the local community in planning and implementation raises sustainability of assets. Ideally some of them "should accrue directly to project participants" (Devereux, 2002:40). For instance it can include building wells and boreholes on the private land of small-scale farmers such as under India's Million Wells Scheme (Lipton et al., 1998). Most of the authors however prefer construction of public assets to avoid social tensions. Finally it is fair to mention criticism (such as Thwala, 2005) of PW in general based mainly on the evidences from India, where since 1970 there are diverse PW programs proceeding with multivalent outcomes. Unfortunately these opinions come from misunderstanding of aims, means and above all the circumstances in which PW are taking place. The following chapter will try to redress these biased claims.

4.3 PUBLIC WORKS IN TRANSIENT TIMES OF CRISES

Small crisis or seasonal variations may affect rural households tremendously. While the middle classes in USA were in 1995 able to maintain their standard of living for 1.2 month without additional income, the poorest quintile could not afford to replace their income at all (Shapiro and Wolf, 2005). The same holds for rural households in LDCs today but with the exception that they even have no buffer stocks at all and are already stuck at the bottom. The higher exposure to natural patterns represents also higher household vulnerability against wide range nature or man-made catastrophes, but local disasters such as floods, conflagrations and landslips as well. Unfortunately the vulnerability is not balanced through banking and insurance sector in rural areas as described at the beginning of part 3.3.3 about private assets. The diverse disasters (draught or weather disfavour) also threaten the single rural livelihood, which is still based by 50 per cent on agriculture yields (Winters et al. 2001). Hence these idiosyncratic shocks cause the fall into poverty or deepen the poverty trap. Even the period between planting and harvesting could lead to the depletion of highly liquid and exchangeable assets and compel households to accept copying strategies (Janvry et al., 2006). When the situation is getting worse, the CPRs are under exploitative raids of those who

have exhausted all other sources of income (purchase of durable assets or appeal to the urban relatives for instance). The consequences of uncertainty and lack of insurance lead to the less productive flat portfolio of livelihood (part 3.3.3.). The slack season or local disaster on the other hand leads to the abnormal unemployment (above 50 per cent of workforce in LDCs), burden on CPRs and uncontrolled migration (World Bank, 2001).

4.3.1 THE PROSPECTIVE RESPONSE OF GOVERMENT

There are a variety of diverse programs and strategies dealing with methods to overcome transient shocks. In fact the prospective scheme should react to the current problems while somehow simultaneously combating the root causes of it. Note that this is not the same thing. Dealing with current problems represents only palliative treatment that does not necessarily lead towards complete recovery. Hence straight response programs include two objectives. There is consensus (Devereux, 2002; Ravallion, 2003) about the first one called *Stabilization Objective* according to Braun (1995:314). The primary task under this objective is to distribute financial resources within given time to those most affected by sharp and immediate drops in income and most likely to adopt irrevocable coping strategies in answer to these drops. Chapter two provides arguments for self-targeting screening mechanisms which effectively and cheaply facilitate the identification of those in need. Applying self-targeting selection, it indicates three characteristic of such programs. Firstly the wages distributed are very low. Therefore they attract only those who have no other sources of income. Secondly because the wages are so low, the coverage within one budget increases, contrary to labour based PWs (as discussed in the previous section) where wages are likely to be set on the socially determined level and thus the overall coverage is limited. And thirdly, since the workload is imposed on participants there is the opportunity to build *something* fruitful. This *something* is under examination by many authors, because it determines the second objective of certain programs and the final evaluation of its success. A misunderstanding of the second objective can lead towards unfair statements: “most assessments concur that public works programmes have achieved greatest impact in terms of temporary employment creation and direct income transfers (poverty alleviation), but only limited impact in terms of sustainable income enhancement (poverty reduction)” (Devereux, 2002:20). The conviction about the assets created under labour-intensive PWs is that they should initiate the new income stream. This is confronted with disappointment in Braun (1991) and also mentioned in Graham (1992) and Papola (2009). Since there is minimal yet sufficient capital-labour ratio (4:6) that is being used to create assets leading towards development, any other decrease of the capital component will in all likelihood, not bring about enough robust

and sustainable effect upon growth. Another reason why self targeted PWs are not adequate prerequisites for the creation of sustainable and pro growth infrastructure lies in the lack of trainings for employed masses, the fluctuating attendance and lower productivity per worker.

The second objective involves the creation of assets; however not for poverty reduction purposes, but for the *insurance reason*. The insurance component might be divided into two spheres. The first one relates to the external hazards reduction. Prowse (2008:117) provides assets and activities stock , that fits into the insurance scheme such as "lifting homesteads above the high water mark in the chars, flood proofing transport infrastructure, and improving building design within health and education programmes, reducing the vulnerability of populations through supporting individual and collective assets." The main purpose is to either prevent the repeating of the disaster or to reduce its consequences. One of the options is to invest in CPRs recovery and management. For example, planting of trees for further possible fuel sources, or building small dams to prevent overexploitation and improve water quality with the view of diarrhoea and gastric disease reduction. This trend would find support in Bardhan (1996). The second sphere of the insurance component of labour-intensive PWs consists in direct endowments of assets to the household that will enable it to not succumb easily to external shocks. One of such endowments that PW can facilitate could be provision of irrigation facility, horticulture plantation, and land development facilities to land owned by chosen households. In some way even the durability of the program might represent the safety net itself. For instance, Indian National Rural Employment Guarantee Scheme (NREGA) resumes similar programs implemented across the country since 1970 (Ministry of rural Development India, 2008). The aspect of long term continuity indicates to the poor that in times of emergency they will not be abandoned and that they can expect some assistance. In the situation of vulnerable households any enhancement of certainty has a serious impact upon livelihood strategies (Janvry et al., 2006). However this will not always relieve the local burden upon CPRs of local commons, because the more an individual possesses, the more she/he want to secure those possessions and CPRs are the least difficult option from the farmer's point of view (Readon and Vosti, 1995). Finally the elements of stabilization and insurance together usually reduce the present and future hazards, uncertainties and transaction costs. Moreover they should keep the level of development against depreciation in so far as the starting position for investment in the future makes higher returns possible in a shorter time period.

4.3.2 THE EFFECT OF LABOUR-INTENSIVE PWS

Table 3 present four spheres of intervention under labour-intensive PWs. The methodology is derived from Ravallion (1991:154) who divided endowments in terms of direct and indirect and also placed attention on the question of time. Time in the matrix is represented through expressions short (week's units) and middle term (month's units) and relates with the ability for how long given assets are able to provide some kind of benefit. The most significant role is usually played by direct cash transfers (sector I). Self-targeting recruitment mechanism however does not allow wages that one would be willing to provide in face of physical heaviness imposed upon program's participant. This is practical example of self-targeting paradox form chapter two. But priority is given to the targeting accuracy which compresses the final wage paid. Still the direct and immediate effect is first and foremost on labour-intensive PWs. This chapter argues that labour-intensive PWs are predominantly stabilizing and insure safety nets that prevent low income families slipping back into the poverty trap and those who are already on the bottom alleviate their livelihood burden. Kareemula et al. (2009) provide evidence that some participants are able to safe portion of their wages from NREGS follower of (NREGA) in a favour of reinvestment or purchase equipment (17 per cent of households attached electricity or 12 per cent connected drinking water tap to their house, 8 per cent of households purchased bicycle after their long term participation in program). These assets have insurance role, because they safe expenses that family would spent for bad hygiene consequences for instance.

TABLE 3 THE MAIN SPHERES OF INTERVENTION THROUGH PWS IN TRANSIENT TIMES OF CRISES

Insurance	Stabilization: Direct	Stabilization: Indirect
Short term	Food/cash redistribution to the utmost population in need **I.**	1. Transfer of skills and knowledge through employment and trainings 2. Social Capital building **II.**
Middle term	1. Building assets on the private land 2. Community owned asset creation **III.**	1. Investment in CPRs to maintain source of last resort 2. Building cultural and environmental values **IV.**

Among the indirect interventions in Table 3 there is the investment in CPRs (Sector IV) that was already discussed. However there are other options in the same field such as building national parks, supporting cultural activities, etc. These ideas are inspired out of measures adopted during the Great Depression of 1929 in USA. However the expected return would be very slow and uncertain. Although there might be some returns in the near future, in the form of incomes from tourism for example. ILO (2003) presents forestry, soil and water conservation, and land development investment as possible ways of the poverty trap prevention and development of spatial advantages. Sector III. includes assets that are created and subsequently transferred to poor households or communities so that they can benefit out of it. One of the options how to do it, is creation of club goods.

Chapter 3 refers about libraries, swimming pools and so on. But generally said club good is cost, excludable good or characteristic that is shared by group of people and that brings benefit to all members together (Cornes and Sandler, 1996).[24] Obviously this benefit should be higher for member than for non-members. Water systems represent highly excludable but likely to share

[24] Hence even natural resources (Sector VI) might become club goods. It may represent one way of successful natural resource management.

assets with additional productive potential. Moreover it can results in higher quality for users and prevent some diseases. Apparently less productive assets such as housing have potential to safe resources too and are likely to be club goods. The logical question is whether labour-intensive PWs are able to create such assets in substantial quality. And consequently whether it is feasible to find political support for such allocation or not. Regarding to former question the role of PWs might be at least indirect and rests in building facilities used for meetings and administration of club goods. Political justification depends also on the civilian empowerment of the poor whether they have the potential to enforce their will. For example the natural counterpart there would represent big farm employers who may find it worthwhile to lobby for such kind of work task under program, that improve their irrigation at the expense of small scale land owners (Lipton, 1998). However collective administration enhances interest of insiders in their vicinity and the future and raises the potential to maintain their collective interests. Any kind of association or administration in hands of poor supports creation of social capital, linkages and enhances the likelihood of inflow benefits to the particular group (Sherraden, 1991). This fact relates with the sector II. in Table three. Moreover grouping does help to manage external opportunities and encouraging internal cooperation that might be mobilized in times of emergency. One of the way how labour-intensive PWs indirectly influence chances of the poor is through grouping when they carry out physical work under program. "In recent years, emphasis has again been placed on the adoption of employment-intensive methods in times of crisis, i.e. natural disasters such as Hurricane Mitch, and in conflict-affected countries, to provide safety nets and help in the reintegration of ex-combatants through reconstruction programmes" (ILO 2003, page 2-3). Other positive role of labour-intensive PWs found Kareemulla et al. (2009) in Andhra Pradesh where implementation of such program reduced migration to urban areas by 20 percent (from 27 per cent to 7 per cent). Transfer of skills and knowledge is far less in this type of schemes due to minor capital component in it. Nevertheless mobilization of the most disadvantaged or excluded in the favour of society well being might support inclusive forces within society and produce positive externalities. Also taxpayers consider transfers to the poor to be fair in exchange for workload in society favour (Ravallion, 1991).

4.3.3 CASE OF WATERSHED INVESTMENT

Labour-intensive and labour-based PWs are in this thesis presented as different concepts with different objectives. Even assets created or transferred are different in accordance with their functions (promotive or preventive if using terminology from chapter one) with one exception – assets relating to water in various ways. Investment in water was found very attractive because it

leads to relatively fast, sustainable and decent returns. For instance World Bank (1994) assesses the financial returns from water infrastructure to be between 23 – 17 per cent. As it was pointed in chapter 3 by Krishna (2007) revealed that irrigation improvements generally took out of poverty 30 per cent of previously poor according survey across developing countries. Also Devereux and Solomon (2006:25) confirmed that "small-scale irrigation was found to have dramatically increased agricultural production and household incomes." Especially in rural arid or semiarid areas where people depend on agriculture any improvement with water has immediate impact. In the same time most of the works that are needed to be carried out are feasible for unskilled manual labourers. Ninan and Lakshmikanthamma (2001) report activities under watershed development project in form of planting cover crops or live barriers, adjusting land through terracing, digging percolation ponds, building reservoirs. These are activities that even do not require high supply of capital. Hence it can be effectively carried out even under labour-intensive PWs. Here the confusion might come, because this remarkable pro growth investment under labour-intensive PWs invites for conclusion about at least anti-poverty nature of this measure at all. Consequently even self-targeting screening mechanism would not be disqualified in such circumstances.

Water investment projects are significantly present in diverse PWs programs in developing countries (World Bank 1994; Devereux and Solomon, 2006; Papola, 2008). The returns however depend again on the level of country investment in social infrastructure. World Bank (2001) for instance confirmed that In Vietnam households with higher education levels (more than full primary education) had higher returns to irrigation in year 2000. But when people cannot afford school attendance (due to lack of state support) even improvements in water management will not be met with desired effects (poverty reduction). Furthermore if the irrigation brig about high returns, why it permanently represent considerable portion of PWs in India since 1970s according to Kareemulla et al. (2009)? Once watershed is built it should bring some returns for certain time. Theoretically said higher yields in autarky would lead to decrease of farmers earnings per output unit. Investment in irrigation without road attachment for instance would dilute the final effect. Moreover subsidizing farmers through assistance in watershed building can "crowd out" the non-farm private sector from rural areas (Besley and Coate, 1989). Nevertheless investments in water assets remain to be major part of various PWs that is able to generate returns in most of the situations. But water programs are not panacea. It does not solve the structural nature of unemployment in rural areas.

4.4 CONCLUDING REMARKS

Poverty is related with the rate of man's productivity of labour. The higher productivity, the lesser is incidence of poverty in the society (Collier, 2007). In the rural areas of developing countries people depends at least by 50 per cent on farming production. They operate in undeveloped imperfect markets. Their productivity is low, because they have lack of various assets and these assets are even inefficiently allocated due to risk reduction. Any government has portfolio of strategies that might help the poor in the rural areas. From the long term point of view the support of social infrastructure (health care and education) is the most effective (Table two, sector I.). Public works represent relatively short term measure and cannot replace universal programs that usually supports social infrastructure. Conversely public works have rather supplemental role in development effort with the predisposition to positive synergies. In the non emergency times the emphasis within PWs can be devoted towards asset creation. This scheme is close to Devereux's (2002) Fair work and Ravallion's (1991) LIMCOV. In the text above the term *labor-based* PWs is used in most of the cases. From the conceptual point of view the objective is not to provide safety net but rather assist in overcoming country's obstacles in development. Unfortunately application of self-targeting screening mechanism is not feasible in this case, because participating workers have to receive trainings and the composition of capital in the entire program should not fall over 4:6 of capital-labour ratio. The following capital effect is expected to employ also those who were excluded from the constructions works under program. In the context of rural areas the investment in transport, telecommunication and electrification assets brings the highest returns according to evidence from various surveys (World Bank, 1994; Thwala, 2005 and Kareemula et al.; 2009). Again the final effect of the assets created depends on the other assets availability (the mixture of assets that are possessed or to which poor has access in form of tangible and intangible) and heavily upon social infrastructure development that supports the synergy effect. However there is absence of substantial researches about the synergy effect magnitudes and patterns.

Looking at the whole scheme of labour-intensive PWs with self-targeting screening mechanism the wage redistribution component (quadrant I.) prevails over other endowments in the level of financial cost and overall impact upon livelihoods of the poor. The cash transferred enables immediate *stabilization* of income in times of transient schlock. Any other effect is uncertain because it depends upon planning, implementation, population density etc. The *insurance* effect is more likely to rest in the programs durability (employment of last resort such as NREGS in India) than in the assets created. Repeating similar schemes especially in India might indicate that either the assets created are useless (Lipton, 1998), or they are not utilized and the whole approach taken

through labour-intensive PWs is ineffective to deliver desired fixed utilities (Ravallion, 1991). However investing in watershed assets according to evidences suggests interesting returns even with minor capital under PWs. This evidence might lead towards too positive valuation of these schemes. Additionally areas of intervention of labour-intensive PWs include CPRs and private or community assets. One of the options how to increase benefits flow towards the participants is the support of creation club goods for instance through occupation of some CPRs. Concerning Application of self-targeting screening mechanism it is highly advantageous in emergency times. Firstly identification of beneficiaries would be very costly and inaccurate when other screening method would be used. Secondly money saved on administration can be relocated within program budget to wages paid to workers. Self-selection is also favourable because it does not restrain benefits spreading. From the long term point of view revision of private cost of participation (wage range paid) it is highly recommended to maintain program's efficiency. Self-selection screening methods are more likely to be part of PWs designed as safety nets, because it would bring either unskilled individuals or masses of labourers to the PWs program designed towards poverty reduction and development that needs rather smaller, skilled and organised labour force.

CONCLUSION

Life is an art of trade-offs. The integration of self-targeting screening mechanism upon public works is not an exception. The answer to the thesis question, whether this scheme leads to development, is negative. The first reason is incompatibility between what kind of labour force given PWs program focused on asset creation demands and what self-selection screening mechanism can supply. The second reason rests in the difficulty of combining promotive and protective objectives within one program. While the promotive objective relates to the reduction of future poverty the late one deals with alleviation of the current poverty situation. The final form of PWs program thus has to relieve either from asset creation or from self-selection consistence. Consequently there are two concepts of PWs firstly identified by Devereux (2002) who name them *Labour-based* and *Labour-Intensive* PWs.

Labour-based PWs represent a concept where the employment of local workers is a priority but not at the expense of the quality of assets produced. Chapter three provides stock of assets that have positive impact on growth of GDP especially in rural areas. Labour-based PWs are suitable for construction of transport infrastructure, electricity and communication networks. All these assets have the highest rate of return. Although there is indication (Goel, 2002) that construction of physical infrastructure in remote areas has a labour saving effect. On this point the need for long term support of social infrastructure arises, because on the contrary it can include back labour force to the productive sector through human capital enrichment. Labour-based PWs are likely to be realized in peaceful and quiet times for their focus on the future and development.

In contrary, labour-intensive PWs are conceptually closer to safety nets. Priority here is to provide employment to everybody who applies for low but fixed wages. Self-targeting screening measure are the most adequate in this case. The main objective of such PWs is not quality and profitability of assets created, but the wage redistribution among project participants. The desired effect, in this case, is the stabilization of income in times of transient crises which affect agricultural production (draught, floods and bad crops), because about half of the income of rural inhabitants comes from on-farm activities. The secondary objective of this scheme is called insurance. It concerns assets created under these programs and refers to the cause and prevention of a particular emergency in the future. There is no room for development ambitions. However even Labour-intensive PWs with minor capital endowments can contribute to growth by redirecting labour to construction of water related facilities. These assets, according to chapter four, usually dramatically increase agricultural output despite minor capital contribution.

PWs are very attractive among policymakers because participants seem to deserve their rewards. However from the conception points of view it should be clear that without long term investment in health care and education, poverty reduction and development will not be achieved. The importance of contemporary disfavoured universal programs is highlighted in chapter one and later in Table two. Theoretical confrontation of universal programs and targeting PWs shows the disproportion in significance and resource allocation level in favour of universal programs. PWs and targeting, despite of their flexibility, cannot fully replace universal programs. On the other hand targeting and PWs schemes represent important complementary part of poverty alleviation and developmental mix of strategies.

5 LIST OF REFERENCES

Alderman, H., Lindert, K., 1998. *The potential and limitations ofset-targeted food subsidies*. The World Bank Research observer [Online], 13 (2), p. 213-229. Available at: http://wbro.oxfordjournals.org/cgi/reprint/13/2/213. [Accessed 10 May 2010].

Arefi, M., 2008, *An Asset-Based Approach to Community Development and Capacity-Building*. Nairobi: UN-HABITAT.

Arefi, M., 2008. An Asset-Based Approach to Community Development and Capacity-Building. Nairobi: UN-HABITAT.¨

Bardhan, P., 1996. Efficiency, Equity and Poverty Alleviation: Policy Issues in Less Developed Countries. The Economic Journal, [Online], 106 (438), p. 1344-1356. Available at: http://www.jstor.org/stable/2235526. [Accessed 24. March 2010].

Barrett, B., CH., Reardon, T., 2000. *Asset, Activity, and Income Diversification Among African Agriculturalists: Some Practical Issues*. Department of Applied Economics and Management, Cornell University, Ithaca, New York [online], Working Paper 2000-19. Available at: http://ageconsearch.umn.edu/bitstream/14734/1/wp000019.pdf. [Accessed 12 April 2010].

Barrett, Ch., 2004. *Rural poverty dynamics: development policy implications*, Cornell University, Ithaca [Online] Department of Applied Economics and Management. Available at: http://www.nric.net/poverty/pubs/RuralPovertyDynamics.pdf. [Accessed 9 April 2010].

Bauman, Z., 2000. *Liquid Modernity*. 1st edition. Cambridge: Blackwell Publishing Ltd.

Besley, T., Coate, S., 1989. Workfare vs. Welfare: Incentive Arguments for work requirements in poverty alleviation program. [Online], Warwick Economic Research Papers, number 314. Available at: http://www2.warwick.ac.uk/fac/soc/economics/research/workingpapers/publications/other/twerp_314.pdf. [Accessed 16 February 2010].

Braun, J., 1995. *Employment for poverty reduction and food security*. 1st Edition. Washington: Intl Food Policy Res Inst. [Online]. Available at: http://books.google.com/books/download/Employment_for_poverty_reduction_and_foo.pdf?id=7q1ZUsatasIC&hl=cs&output=pdf&sig=ACfU3U1CyLTC6GfnrRrFK9WorFmpInaeHg&source=gbs_v2_summary_r&cad=0. [Accessed 12 February 2010].

BRAUN, J., Teklu, T., Webb, P., 1991. *Labor-Intensive Public Works for Food Security: Experience in Africa. International Food Policy Research Institute*. [Online] Working Papers on Food Subsidies, Number 6. Available at: http://www.ifpri.org/sites/default/files/publications/wpaperfs06.pdf.

[Accessed 12 January 2010].

Calderon, C., A.,Serven, L., 2004. *The Effects of Infrastructure Development on Growth and Income Distribution*. The World Bank. [Online] Policy Research Working Paper, Number 3400. Avaliable at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=625277. [Accessed 12 January 2010].

Coady, D., Grosh, M., Hoddinott, J., 2004. *Targeting of transfers in developing countries: Review of lessons and experience*. The World Bank [Online], International Food Policy Research Institute, Washington, D.C. Available at: http://info.worldbank.org/etools/docs/library/49176/Targeting_Grosh_8-04.pdf. [Accessed 24. February 2010].

Collier, P., 2007. *The bottom billion: why the poorest countries are failing and what can be done about it*. New York: Oxford University Press.

Cornes,R., Sandler, T., 1996. *The theory of externalities, public goods, and club goods*. New York: Cambridge University Press.

Currie, J., Gahvari, F., 2007. *Transfers in cash and in kind: theory meets the data*. National Bureau of Economic Research Cambridge [Online], Working Paper, number 13557. Available at: http://www.nber.org/papers/w13557. [Accessed 16 February 2010].

Damodaran, A., 2002. *Investment valuation: tools and techniques for determining the value of any asset*. 2nd edition. New York: John Wiley and Sons.

Devereux, S., 1999. Targeting Transfers: Innovative solutions to familiar problems. IDS Bulletin [Online], 30 (2), p. 61-74. Available at: http://www3.interscience.wiley.com/cgi-bin/fulltext/122393461/PDF. [Accessed 26. March 2010].

Devereux, S., 2002. *From workfare to fair work : the contribution of public works and other labour-based infrastructure programmes to poverty alleviation*. ILO [Online], Issues in Employment and Poverty, Discussion Paper, Number 5. Available at: http://staging2.ilo.org/wcmsp5/groups/public/---ed_emp/documents/publication/wcms_120741.pdf. [Accessed 9. April 2010].

Devereux, S., Solomon, C., 2006. *Employment creation programmes: the international experience*. Geneva: ILO [Online], Issues in Employment and Poverty Discussion Paper, number 24. Available at: http://www.ilo.org/public/libdoc/ilo/2006/106B09_242_engl.pdf. [Accessed 27 March 2010].

Dutrey, A., P., 2007. Succesful targeting? Reporting Efficiency and Costs in targeted Poverty alleviation Programmes. [Online], UNRISD Geneva: Social Policy and Development Programme, Number 35. Available at: http://www.unrisd.org/unrisd/website/document.nsf/ab82a6805797760f80256b4f005da1ab/0b87c67449c938edc12573d10049830b/$FILE/Peyrepap.pdf. [Accessed 5 January 2010].

Fafchamps, M., Quisumbing, A. R., 1999. Human Capital, Productivity, and Labor Allocation in Rural

Pakistan. *The Journal of Human Resources*. [Online] 34 (2), p. 369-406. Available at: http://www.jstor.org/stable/146350?seq=17. [Accessed 12 February 2010].

Glaude, J., Watzlawick, H., 1992. *Employment creation and poverty alleviation through labour-intensive public works*. International Labour Review [Online], 131 (1), p. 3-16. Available at: http://search.ebscohost.com/login.aspx?direct=true&db=bth&AN=5345097&site=ehost-live. [Accessed 15 February 2010].

Goel,D., 2002. Impact of Infrastructure on Productivity: Case of Indian Registered Manufacturing. Centre for development Economic [Online], Working Paper Number 106. Avaliable at: http://www.cdedse.org/pdf/work106.pdf. [Accessed 15 February].

Gottschalk, P., Freeman, R., B., 2000. *Generating Jobs: How to Increase Demand for Less-Skilled Workers*. New York: Russell Sage Foundation.

Graham, C., 1992. The politics of protecting the poor during adjustment: Bolivia's emergency social fund. *World Development*, [Online] 20 (9), p. 1233-1251. Available at: http://dx.doi.org/10.1016/0305-750X(92)90075-7. [Accessed 7. January 2010].

International Labour Office, 2003. *Thematic evaluation report: Employment-intensive investment and Poverty alleviation*. Governing Body Geneva [Online], GB.286. Available at: http://www2.ilo.org/public/english/standards/relm/gb/docs/gb286/pdf/tc-1.pdf. [Accessed 2 March 2010].

Janvry, A., Sadoulet, E., Solomon, P., Vakis, R., 2006. *Uninsured Risk and Asset protection:can conditional cash transfer programs serve as safety nets*? Social Protection The World Bank [Online], Working Paper, Number 0604. Available at: http://siteresources.worldbank.org/SOCIALPROTECTION/Resources/SP-Discussion-papers/Social-Risk-Management-DP/0604.pdf. [Accessed 9 April 2010].

Krishna, D., 2007. For Reducing Poverty Faster: Target Reasons Before People, *World Development*. [Online] 35 (11), p. 1947–1960. Available at: http://dx.doi.org/10.1016/j.worlddev.2006.12.003.

Kularatne, C., 2008. *Social and Economic infrastructure Impacts on Economic Growth in South Africa*. University of Cape Town. [Online] Available at: http://econrsa.org/wkshops/institutions/kularatne.pdf. [Accessed 14 April 2010].

Lewis, A. W., 1954. *Economic Development with Unlimited Supplies of Labour*. Manchester School [Online], Available at: http://www.globelicsacademy.net/2008/2008_lectures/lewis%20unlimited%20labor%20supply%201954.pdf. [Accessed 18 March 2010].

Lipton,M., Yaqub, S., Darbellay, E., International Labour Office, 1998. *Successes in anti-poverty*. Geneva: ILO.

Lustig., N., 1997. *The Safety Nets which are not Safety Nets: Social Investment Funds in Latin America*, USAID Poverty Frontiers [Online]. Available at: http://www.povertyfrontiers.org/do_redirect.php?www.iadb.org/sds/doc/764eng.pdf. [Accessed 26. February 2010].

MACKIE P., J., Jara-Diaz, S., Fowkes A., 2001. The Value of travel time savings in evaluation. Transportation Research Part E: Logistics and Transportation Review [Online] 37(2-3), p. 91-106, Available at: http://dx.doi.org/10.1016/S1366-5545(00)00013-2. [Accessed 14 April 2010].

Mankiw, N., 2008. Principles of Economics. 5th Edition. Cengage Learning.

Mkandawire, T., 2005. *Targeting and Universalism in Poverty Reduction.* [online] UNRSID Geneva: Social Policy and Development Programme, Paper Number 23. Available at: http://www.unrisd.org/80256B3C005BCCF9/%28httpAuxPages%29/955FB8A594EEA0B0C12570FF00493EAA/$file/mkandatarget.pdf [Accessed 22 February 2010].

Morduch, J., 1994. Poverty and Vulnerability, The American Economic Review. The *American Economic Review*. [Online] 84 (2), p. 221-225. Availabale at: http://www.jstor.org/stable/2117833. [Accessed 12 January 2010]

National Rural Employment Guarantee Act, 2008. *Operational Guidelines*. 3rd Edition. Delhi: Ministry of Rural Development India [Online]. Available at: http://nrega.nic.in/Nrega_guidelinesEng.pdf. [Accessed 14 January 2010].

OECD, 2001. *Poverty Reduction*. Paris: International development. [Online]. Avaiable at: http://www.oecd.org/dataoecd/47/14/2672735.pdf. [Accessed 12 January 2010].

Ostrom, E.,Gardner, R., Walker., J. 1994. Rules*, games, and common-pool resources*. University of Michigan Press.

PAPOLA, T., S., 2008. *Employment challenges and strategies in India*. ILO [Online], Asia-Pacific Working Paper Series. Available at: http://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/documents/publication/wcms_100238.pdf [Accessed 17. March 2010].

Papola, T.S., 2009. Economic growth, poverty reduction and role of special programmes. In Jayaram, N., Deshpande, R.S., ed. *Footprints of Development and Change: Essays in Memory of Professor V. K. R. V. Rao.* Bangalore: Institute for Social and Economic Change. Available at: http://www.google.com/books?id=tu4sbJa4aQC&lpg=PA17&dq=Papola%20and%20Sharma%2C%202003&lr=lang_en&hl=cs&pg=PA415#v=onepage&q=Papola%20and%20Sharma,%202003&f=false. [Accessed 22.March 2010].

Prowse, M., 2008. *Pro-poor adaptation: The role of assets*. Overseas Development Institut. [Online], Opinion 117. Available at: http://www.odi.org.uk/resources/download/2501.pdf. [Accessed 2 March 2010].

Ravallion, M., 1991. Reaching the rural poor through public employment. *The World Bank Research Observer.* [Online], 6 (2), p. 153-175. Available at: http://www.jstor.org/stable/3986315. [Accessed 16 March 2010].

Ravallion, M., 2003. *Targeted Transfers in Poor Countries: Revisiting the Trade-Offs and Policy options*. The Word Bank [Online], Social Protection Disscussion Paper Series, number 0314. Available at: http://econ.worldbank.org/files/26553_wps3048.pdf. [Accessed 16. February 2010].

REARDON, T., VOSTI, S., 1995. Links Between Rural Poverty and the Environment in Developing Countries: Asset Categories and Investment Poverty. *World Development* 23 (9), p. 1495-1506. Available at: doi:10.1016/0305-750X(95)00061-G. [Accessed 14 April 2010].

Rioja, F., K., 2001. *Filling potholes: macroeconomic effects of maintenance versus new investments in public infrastructure*. Journal of Public Economics [Online], 87 (9-10) p. 2281–2304. Available at: http://dx.doi.org/10.1016/S0047-2727(01)00200-6. [Accessed 16 April 2010].

RIOJA, F., K., 2001. Filling potholes: macroeconomic effects of maintenance versus new investments in public infrastructure. Journal of Public Economics. [Online], 87, p. 2281–2304. Available at: doi:10.1016/S0047-2727(01)00200-6. [Accessed 7 January 2010].

Samson, M., van Niekerk, I., Mac Quene, K, 2006. *Designing and implementing social transfer programmes*. [Online] Economic Policy Research Institute Cape Town. Available at: http://www.epri.org.za/rp38.pdf. [Accessed 10. February 2010].

Sen, A., 1995. *The political economy of targeting*. [Online]. Available at: http://adatbank.transindex.ro/html/cim_pdf384.pdf. [Accessed 20 February 2010].

Sherraden, M., 1991. Assets and the poor: a new American welfare policy. USA: Blackwell Publishing.

Sherraden, M., 1991. Assets and the poor: a new American welfare policy. New York: M.E. Sharpe.

Swift, A., 2001. *Political philosophy: a beginners' guide for students and politicians*. 1st edition. Cambridge: Polity Press.

The Lancet, 1994. *Structural adjustment too painfull*. The Lancet, [Online]. 344 (8934), p. 1377-1378. Available at: http://dx.doi.org/10.1016/S0140-6736(94)90560-6. [Accessed 20. February 2010].

Thwala, W., D., 2005. *Evaluation of Public Works Employment Creation Programmes and Projects in South Africa: Thirty Years of Learnig*. [Online]. Available at: www.ideas-int.org/documents/Document.cfm?docID=114. [Accessed 16 March 2010].

Treich, R., 2006. *Investing in infrastructure assets.* Mercer. [Online]. Available at: http://www.mercer.com/referencecontent.htm?idContent=1245620. [Accessed 14 April 2010].

UNCTAD, 2002. *The Least development countries report*. Overview,United Nations. [Online], Available at: http://www.unctad.org/en/docs/ldc2002overview_en.pdf. [Accessed 12 January 2010].

UNCTAD, 2008. *Handbook of statistics 2008*. [Online]. Available at: http://www.unctad.org/Templates/Download.asp?docid=10193&lang=1&intItemID=2364. [Accessed 9 February 2010].

Winters, P.,Davis, B., Corral, L., 2001. *Income generation in rural Mexico: Factoring in social and public capital. Agricultural and Resource Economics, University of New England*. [Online], working paper, number 2001-1. Available at: http://www.une.edu.au/febl/EconStud/wps.htm. [Accessed 9 April 2010].

World Bank, 1994. World Development Report.

World Bank, 2001. World Development Report.