

# **Towards an integrated approach for project analysis for small farmers: the Living Income / Fair Price method**



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Cover photo: Application of SRI (System of Rice Intensification) in Kerala, India

Photo by author

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## Abbreviations

CFAF	Franc CFA, the currency used in West-Africa
ETI	Ethical Trading Initiative
FAO	Food and Agriculture Organization
ILO	International Labour Organization
NGO	Non-Governmental Organization
SAI	Social Accountability International
UNDP	United Nations Development Programme
UP	Unité de Production (Production Unit)
WFP	World Food Programme
WHO	World Health Organization

## ***Summary***

The paper provides a basis for an integrated approach of agricultural project analysis with special attention to small farmers by expanding FAO's Commodity Chain Analysis to an approach that includes power relations, both national and international, and income distribution. In order to be able to invest in production increasing techniques, the farmer must get enough revenue for his products to maintain his family in an appropriate way, as well as to be able to invest in tools and equipment. The economic, financial and social consequences of the prevailing system of market prices on small farmers are analysed and 'fair' prices for the products are calculated. These fair prices are based on a Living Income concept that allows farmers a decent standard of living and some funds to invest.

## ***Introduction***

Several methodologies have been developed for project analysis in agricultural development. An important handbook has been written by J. Price Gittinger: "Economic Analysis of Agricultural Projects". The projects he deals with are large agricultural projects of which financial and economic aspects are explained, as well as measures of project worth. In his approach a difference is made between financial and economic values. 'The financial prices are the starting point for the economic analysis; they are adjusted as needed to reflect the value to the society as a whole for both the inputs and outputs of the project. When the market price of any good or service is changed to make it more closely represent the opportunity cost (the value of a good or service in its next best alternative use) to the society, the new value assigned becomes the "shadow price"' (Gittinger, 1982: 243).

A different approach, not necessarily confined to agriculture, was developed in France, namely 'la Méthode des Effets'. The fact that discussions about this approach were mainly in French, has probably been a major reason why this method has not received the attention it deserves in English-dominated discussions. This method makes no use of shadow prices, everything is calculated in financial prices. This makes it possible to determine 1. The direct effects of the project, 2. The indirect effects and 3. The value added in both cases of the situation without, and with project (Chervell and Le Gall: 1976, 47-67). In 2005 FAO has published two documents on Commodity Chain Analysis building on this approach, one using market prices (FAO 2005a) and another one introducing Gittinger's shadow prices in the 'Méthode des Effets' analysis (FAO 2005b).

These methodologies that are all within the framework of the economic neo-classical theory, have been, and still are of great importance for the analysis of rural and agricultural projects, but they are applicable for large projects mainly. There is no specific attention to the role of small farmers.

Other, non-neo-classical, theories that have played an important role in development theories were those that pay attention to the role of elites, both in developed as in developing countries. Johan Galtung's 'A Structural Theory of Imperialism' has been influential, as well as Andre Gunder Frank's 'Capitalism and Underdevelopment in Latin America' (Frank 1971). Galtung made the important difference of 'harmony of interest' between communities, and 'conflict of interest' (Galtung, 1971:81). In Latin America the 'Depencia' theory was developed, with scholars like Prebisch, Furtado and Dos Santos. These theories argued that not alone there were relationships of dependency between the Center (the developed world) and the Periphery (the developing countries), but also between the centers and peripheries in both Center and Periphery. Whatever the theoretical relevance of these theories, in practice they were difficult to apply.

The idea of elites, be it national or international, that have their own interests that may be different from the interests of other parts of the population and may lead to bad institutions, has been worked out further by authors like Daron Acemoglu and James A. Robinson in their book 'Why Nations Fail' (Acemoglu and Robinson 2013) and by Abhijit V. Banerjee & Esther Duflo who use the term "iron law of oligarchy" (Banerjee & Duflo, 2011: 238).

A concept of 'Fair Trade' was developed, in which fair trade relations were put central. This concept falls within the scope of neo-classical (Keynesian) theory. With the general acceptance of some protection against complete free trade, a notion of fair trade or a "level playing field" was developed where states sought to enact policies to counteract some policies of their trading partners. Fair trade policy is usually quasi-protectionist and multifunctional in terms of its goals, creating policies that take into account economics, development issues, sociological concerns, and politics (Balaam & Dillman, 2011: 479). Fair Trade Organizations use their own concept of fair trade by their additional principle that aims at economically disadvantaged producers<sup>1</sup> (WFTO 2014). Although often paying higher prices than market prices, there is no consensus among fair trade organizations on what a 'fair' price to the producer is.

More consensus exists about the definition of what a 'Living wage' should consist of. This concept is discussed more in detail in the next chapter.

To come back to agriculture, there are numerous reports that small farmers have a larger output/ha than large farms. The IFPRI report 'The Future of Small Farms for Poverty Reduction and Growth' gives many examples of studies that show a common tendency for larger farms to yield lower gross and net returns per hectare of land per year than smaller farms (Hazell et al 2007). The USAID paper 'Determinants of Farm Productivity in Africa' states that in Rwanda, compared to the largest firms<sup>2</sup> the smallest farms have three times higher land-yields in value terms and use four times more labor per hectare. Regression results show a strong inverse relationship between farm size and the MVP (marginal value product) of land, and a positive relationship between farm size and the MVP of labor (Reardon et al, 1997: 24). Van der Ploeg concludes that "peasant agriculture contributes more (just as it potentially can contribute far more in the decades to come) to total agricultural growth and, consequently, to the provision of food than other mode of agricultural production. However, this

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<sup>1</sup> Principle One: Creating Opportunities for Economically Disadvantaged Producers: Poverty reduction through trade forms a key part of the organization's aims. The organization supports marginalized small producers, whether these are independent family business, or grouped in associations or co-operatives. It seeks to enable them to move from income insecurity and poverty to economic self-sufficiency and ownership. The organization has a plan of action to carry this out (World Fair Trade Organization, 10 principles of Fair Trade, [http://www.wfto.com/index.php?option=com\\_content&task=view&id=2&Itemid=14](http://www.wfto.com/index.php?option=com_content&task=view&id=2&Itemid=14), retr 7-5-2014

<sup>2</sup> The "smallest" quartile of farms in the study sample average 0,34 ha; "middle" 0,83 ha; and "largest" 2,38 ha

only applies if, and when, sufficient space and means are available. If the required space and means are lacking, this potential for growth and increased supplies of food becomes blocked” (van der Ploeg 2014:1009). One of the means necessary for agricultural growth is financial means. Farmers can only invest when their basic needs are satisfied. This means that they must receive a price for their products that enables them to fulfil their basic needs as well as a small surplus to invest. This desirability to pay higher prices to small farmers is discussed in Bronkhorst (2011).

This paper means to provide a basis for an approach of integrated agricultural project analysis with special attention to small farmers by using elements of these different theories and concepts

This will be done by analysing the economic, financial and social consequences of the prevailing system of market prices on small farmers especially, starting with the needs of these farmers, taking into account elements of above mentioned theories and concepts. We will do so by analysing the amount a farmer should receive for his products (‘fair’ prices) in order to be able to feed himself and his family, and have funds for necessary investments as well. Then the need to expand the analysis to matters of income distribution by taking into account national and international aspects will be discussed.

The structure of the paper is as follows: First will be explained what the Living Income / Fair Price approach aims at. Then, after a brief introduction of the concept ‘Living Wage’ (LW), this concept will be applied to the agricultural sector to arrive at a ‘Living Income’ (LI). Based on the need to earn a LI, the price is calculated a producer should receive for his products, given a certain area of arable land (‘fair price’). After a brief discussion of differences between ‘fair’ and market prices, the desirability to apply more different analyses than the value chain approach only is discussed, in order to arrive at an integrated approach that covers more aspects of costs and benefits of interventions to small farmers.

***What does the Living Income / Fair Price (LI/FP) approach aim at?***

The LI / FP method that will be explained hereafter is an analytical tool that makes clear what factors make it impossible for the small farmer to earn a sustainable income. The outcome of the analysis can be used as follows:

Calculation of LI and FP for the target group is important for policy purposes. It makes it possible to calculate LI per specific target group per region, taking into account local characteristics. The analysis provides insights in imperfections in the production chain, better understanding of national and international factors that block producer prices and the role of supporting services. The analysis will lead to recommendations how to overcome these constraints. These recommendations should lead to a higher income for the producers. This higher income will be reflected in both a better food security situation, as well as investment possibilities for the peasant. This change towards a better income situation for the farmer can be achieved by actions of governments, both local and national, cooperatives of the farmers themselves, UN organizations and NGO's. Especially organizations that are active in local purchase of food for food-aid, can on basis of these data see what effect their local purchase will have on the small farmers they purchase from. On basis of the 'fair price' calculated, they can see whether their contribution really fulfils its goal of helping not only the food-effected population, but also the food producers. Higher income for the farmers will not only lead to improved food security situation within the farmers households but also, because of their newly acquired ability to invest, to a larger turnover with their suppliers. This will take the form of more spending on investment goods, means of living, health and education for the children. These investments concern small investments only, but more income for the small farmer provides also more opportunities to apply for a loan to make larger investments.

## ***Living Wage***

In order to determine what the minimum amount is a worker should receive to sustain him/herself as well as his/her family, the concept of a Living Wage has been developed. The International Labour Organization (ILO) has included living wage as a human right in several major Declarations (Anker, 2011: 4).

There are several definitions of 'Living Wage' that mainly differ on details. Some of these definitions are:

SA8000<sup>3</sup>: "A "living wage" means one that enables workers, for their labor during a standard workweek, to support half the basic needs of an average-sized family, based on local prices near the workplace" (SA8000 2012).

In The *Ethical Trading Initiative (ETI) 1998 Living wage formula* a living wage is to be earned over a maximum working week of 48 hours and basic needs are defined as housing, energy, nutrition, clothing, health care, education, potable water, childcare, transportation and savings, though the possibility of including further need categories (e.g. entertainment, vacation, paid family leave, retirement, life insurance and personal liability insurance) is floated (Steele 2000).

In order to calculate a Living Wage two main formulas are used namely the 1998 Living Wage Summit formula and the SA8000 formula. In both formulas there is reference to household size and adult earners per household. SA8000 makes the assumption of two earners per household, while ETI divides the average household size by the average number of adult earners per household.

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<sup>3</sup> Social Accountability International (SAI) is a non-governmental, multi-stakeholder organization whose mission is to advance the human rights of workers around the world

### ***Living Wage and the agricultural sector: Living Income***

For our goal we can combine the ETI Living Wage Summit formula and the SA8000 formula into the following formula:

*Average household size x (cost of food + cost of non-food per person)*

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*+ savings (set at 10% of income)*

*Average number of adult earners per household*

Where:

- Basic needs include essential expenses such as food, clean water, clothes, shelter, transport, education and a discretionary income.
- The local average household size (which can be different from a standard family) and the average number of adult earners per household are used
- For the adult earners both men and women are calculated as 1<sup>4</sup>. Children between 14 - 18 years may be calculated as 0.5<sup>56</sup>.
- Where the non-food component cannot easily be determined, an extrapolated approach with percentages adapted to local circumstances can be used
- For the food component a norm of 2400 kcal/day could be used
- The formula does not take into account provisions provided by the employer, such as free housing, medical insurance, retirement schemes etc. These provisions should be calculated and deducted from the calculated Living Wage.

It is important to note that the formula refers to household size and adult earners per household.

To determine the food basket different approaches use different calculations for the kcal/day, ranging from 2100 to 3000 kcal/day. The World Health Organization (WHO) has developed guidelines that the average calorie supply of workers in the least developed countries that is needed to perform

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<sup>4</sup> Productivity of men and women in agriculture can be different, as is the case between two people of the same sex. In this approach the Living Wage that people should earn is independent of their productivity. What counts here is that everyone who works full time should earn a Living Wage at least.

<sup>5</sup> It is usual everywhere that children during peak periods work with their parents on the farm, during their school holidays, after school hours etc. therefore they cannot be left out, but also cannot not valued as adult full-time workers.

<sup>6</sup> It might be considered unreasonable that in regions where families have many children the Living Wage is higher than in regions where families are smaller, but it should be kept in mind that, apart from the fact that more people must be fed, children often are a protection for old age because of the absence of retirement provisions. Better retirement provisions will ultimately lead to fewer children and so to a lower Living Wage.

a full day of medium-heavy work is 2400/kcal/day. For heavy physical work this can be raised (see a list prepared by FAO for energy costs of activities). (FAO 2011)

Household size is not dominant in every country. All kinds of other forms of living and sharing together exist. Therefore the term 'household' should be interpreted in a wider sense so as to imply where needed, extended families as well.

A Living Wage can be paid only when demand for the product equals supply at a certain price. When prices are higher, higher wages can be paid, but when prices are too low it is in the long run impossible to pay a Living Wage unless production methods change positively. Productivity in agriculture can be raised by modern techniques and tools. Especially at the level of the poorest farmers, the peasants<sup>7</sup>, the degree of mechanization is very low and often the work is done with inefficient material. This occurs in spite of the fact that the farmers are aware that better equipment exists. Their problem often is that they cannot afford the purchase of this equipment, seed, fertilizer etc. In order to raise production, farmers must have means to invest. In order to invest, the farmer must have sufficient cash income to feed himself and his family, and to put money aside to make the necessary investments. Investments are made not only out of savings, but often with micro-credits as well. This credit must also be repaid though from the income. In order to earn such an income with a production that can only be raised when the necessary investments are made, market prices must attain a certain level.

In order to be able to pay a Living Wage to wage-workers as well as to family members, the revenue of the farm must be calculated. In the case of a large farm with agricultural labourers who work all year round, the revenues of the farm must be sufficient to pay the wages. In the case of part-time workers and family members / owners who do other jobs during the year as well, the revenue should be sufficient to pay the Living Wage for the hours they work for the farm.

In order to calculate the income needed for the family to live on, we start by looking at the income generated at the farm. That means first of all revenue minus production and storage and marketing costs. This is calculated at actual market prices. At what price does the producer sell and what are the costs he has made for this production?

Auto-consumption should be taken into consideration as well, since marginal farmers in particular use a large part of their produce for own consumption. The products the family consumes should be

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<sup>7</sup> In the text the peasant is referred to as he, though there are many cases, especially in Africa, where a woman is head of the family.

valued at market prices, even though they are not traded. Production costs are measured by real expenses.

Income is measured by the amount received for the products in the market plus auto-consumption. Income minus production costs should be sufficient to pay a Living Wage to each worker.

We have to ask now how much money the farm should generate to yield Living Wages if all adult workers work all year, full-time at the farm. This implies calculations as to what crop should be produced with given production methods on a certain type of land in a certain climate to optimise revenues. Revenues not only depend on quantities produced, but also on market prices. Quantity produced \* price per unit – production costs - marketing and storage costs = revenue. Here it is mentioned quantity and not quantity sold only because auto-consumption has to be taken into consideration as well. The sum of all Living Wages at farm level plus an additional percentage for farm investments<sup>8</sup>, will be called the Living Income (LI).

Let us take a simple example of a plot of land of 1 ha, with only one crop, say wheat.

#### *Equation 1*

The revenues are:  $X = a - y - s$

Where:

$X$  = total revenue

$a$  = revenue at market price for wheat

$y$  = production costs wheat

$s$  = marketing and storage costs

Production costs include depreciation costs on investments, as well as labour.

In order to be able to earn a Living Wage (LW), the following must be true:

$$LW \geq X$$

$X = a - y - s$  is a real equation in the sense that it is always true.  $X$  changes according to changes in the other parameters.

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<sup>8</sup> The size of this percentage depends on the prices of tools and inputs compared to cost of living

In  $LW \geq X$  a subjective element is introduced and  $LW \geq X$  is not necessarily always the case. LW may be higher or lower than X. X is a certain amount and may be, or may not be, equal to LW.

This implies that on the one ha at hand, a certain market price is needed to earn a Living Wage. Should we take an area of 2 ha though, the market price that is needed may be different.

So the equation should be adjusted in order to take into account the size of the farm (Equation II).

*Equation II*

$$X = \{(a*b*c)-(y*c)\} - (s*c)$$

Where:

X = total revenue

a = Market price for wheat per ha

b = production of wheat per ha

c = size of the farm in ha

y = production costs wheat per ha

s = marketing and storage costs per ha

Extension of the number of crops to two, say wheat and rice, leads to:

*Equation III*

$$X = \{(a*b*e) - (y*e) + (d*f*g) - (z*g)\} - \{(s * (e+g))\}$$

Where:

X = total revenue

a = Market price for wheat per ha

b = production of wheat per ha

e = ha used to produce wheat

y = production costs wheat per ha

s = marketing and storage costs per ha

d = market price rice

f = production of rice per ha

g = ha used to produce rice

z = production costs rice per ha

This means that, exploiting a fixed amount of land using given production methods, in order to arrive at a total revenue that equals the Living Wage, either prices must attain a certain level or other crops should be produced for which market prices are higher. Decisions regarding which crops to grow in a certain year are routine considerations for farmers who have that choice. It is more complicated for those farmers who, because of climatic conditions and structure of the soil, do not have a choice between different crops. In the long run production methods that lead to higher yields may be introduced, but to do so the farmer first needs funds so that he can invest.

In reality marginal farmers live not only of their crops; they also have alternative sources of income (working as a day labourer etc). The equation then becomes

*Equation IV*

$$X = \{(a * b * e) - (y * e) + (d * f * g) - (z * g)\} - \{(s * (e + g))\} + (q - h)$$

Where:

q = income from other sources

h = expenditure made to obtain this additional income

When the producer works alone, total revenue X should be at least equal to the Living Wage. But what if others are employed as well?

When there is question of hired labour, these costs are to be included in the production costs as actual expenses made by the employer. When, apart from net wages paid to the labourer, amounts have to be paid to pension funds, taxes etc., these should be included as well.

In the case of his or her own or family labour however, the calculation for family members' salaries for working hours should be equal to the wages per hour paid to hired labour (which in all cases should at least correspond with Living Wages for daily work during the whole year).

The outcome of the calculations of the adapted Living Wage formula must be compared with production costs. Using the equations above it is possible to calculate a price for the products for which the producer will be able to generate enough revenue for a Living Wage. This calculated price we will call a 'fair' price. The different 'fair' prices for different products must lead to a total revenue that has to be equal or more than the calculated Living Wage.

With this calculation we arrive at the Living Wage each worker should at the minimum receive for his work. At the level of the farm as an enterprise there is the obligation of a firm to pay Living Wages. Additionally however, not only do wages have to be earned, but also enough surplus money to cover necessary investments.

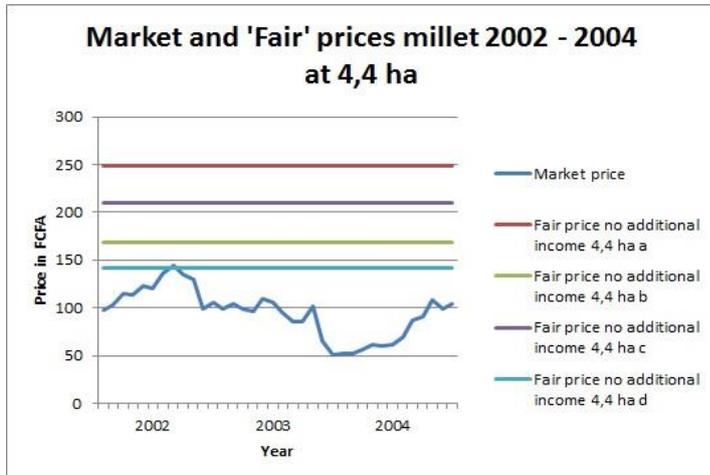
Therefore the amount to be paid on Living Wages (LW) should be raised for the farm by another say 10 per cent to be able to invest in small equipment (hoe, shovel etc.) and seeds as well. This way we arrive at the amount needed to guarantee a Living Income (LI) to the farmer. So  $LI = \sum LW + 10\%$ .

#### *Example*

A calculation of prices needed to achieve a Living Income and the differences with market prices has been worked out for Boucle du Mouhoun region in Burkina Faso (Bronkhorst, 2013: 17-26). This leads to the next graphs showing average producer prices in the Boucle du Mouhoun for millet during the period 2002 – 2004, compared with the calculated fair price for an area of 4,4 and 6,8 ha in case of no additional income for the four cases:

- a. tractor and local variety,
- b. tractor and improved seeds,
- c. plough and local variety, and
- d. plough and improved seeds.

Graph I : Market prices and 'fair' prices in 2002 – 2004 in FCFA<sup>9</sup>, the case of 4,4 ha with millet only

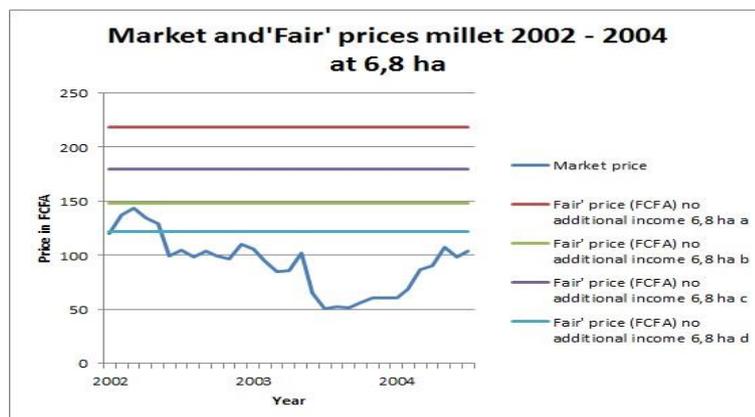


Source: Bronkhorst 2013

Market prices in the period 2002 – 2004 were lower than all 'fair' prices calculated which implies that in these circumstances it is not possible for the peasant to obtain a Living Wage. Only in August 2002 market price was slightly higher than the 'fair' price in the case of plough and improved seeds (144 versus 142,30 FCFA).

Graph II shows the same but then for an area of 6.8 ha.

Graph II : Market prices and 'fair' prices 2002 – 2004 in FCFA, the case of 6.8 ha with millet only



Source: Bronkhorst 2013

<sup>9</sup> FCFA stands for Franc CFA, the currency used in West-Africa. It has a fixed exchange rate to the Euro: 100 FCFA = 0.152449 EUR

Here the market price in 2002 surpassed the 'fair' price for the case plough and improved seeds, and in this case almost touches the 'fair' price for the case tractor and improved seeds. In all other cases the market price is lower than the fair price.

It appears that the use of improved seed for millet gives a higher return than the use of local seed. Although the plough has the least costs, the use of tractor and improved variety gives a higher net return than plough and local variety. Plough and improved variety are the best option at this stage. It appears necessary for the farmer to be able to invest in improved seeds. The majority of farmers in Boucle du Mouhoun use their own seed which they produce themselves. Availability of improved seed is as important as its price.

### ***Difference market prices and equilibrium prices***

Now that we have examined the price a farmer should get for his product in order to be able to survive and continue, the question arises as to why he doesn't receive that amount. In other words, why are market prices different from the prices producers need?

The first question to be answered is whether actual market prices reflect equilibrium prices. When market prices do not equal the theoretical equilibrium situation it is useful to compare market and equilibrium prices and analyse the causes. The outcome may be important to policy makers.

Market prices are usually determined by supply and demand. In conditions of perfect competition this will result in an equilibrium price. There are many market distortions (power positions of market parties, import and export interests, other government policies) however, that cause many market prices not to reflect equilibrium prices.

Small farmers suffer besides from many market and institutional problems. This means that they have higher transaction costs and don't get as good a price for their produce as larger farmers do – even though they are just as productive as larger farms per unit area, and often more so (see Introduction).

In order to make a good comparison between market and equilibrium prices and analyse its causes, it should first be analysed what the theoretical market prices of the different products would be in case of perfect competition. Only when subsidised imports and monopoly and monopsony positions on the markets are excluded, can prices can be compared.

After that, causes of differences between market, fair and equilibrium prices can be analysed.

In above-mentioned case in Burkina Faso reasons for the differences between market and fair prices during the years 2002 – 2004 were:

- 'Price distortions because of gifts of rice (USA and Japan), food aid and food imports. Imported rice often has benefited from export subsidies in the originating countries, like Thailand, the world's greatest exporter of rice (26 per cent of world exports during 1995–2001) and India. EU import restrictions have led to fewer imports by the EU and therefore more exports to other countries. The imports of rice and food aid have led to less internal demand for local grown cereals and has a negative price effect on these grains, and on the income of the producers. Data from WFP Interfais show that food aid in kind during the period 2001/02–2004/05 to Burkina Faso was on average 36.493 MT a year, of which 30.469 MT cereals.

- The market is influenced by regional imports and exports. Burkina is, depending on the harvest, both an importer and exporter of maize. Imports of maize are mainly from Ivory Coast and Ghana. The main export market is Niger.
- 'Distress sales'<sup>10</sup>.''' (Bronkhorst, 2011 : 920-921)

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<sup>10</sup> If the producer needs money now and cannot wait till harvest time (for medical expenses, taxes etc), the trader purchases the crop when it is still growing in the fields, and advances the farmer the money. His rates of interest are very high. For the farmer these are 'distress sales'; he knows he loses on it but needs the money so desperately that he has to sell.

### ***National and international factors***

As shown in the example, we will have to evaluate both the national and the international context in which prices for farmers are determined to analyse the causes of differences between market, fair and equilibrium prices.

What is the international context in which a farmer has to operate? In what way are prices in his country influenced by international factors like trade-agreements and dumping?

For our analysis of the national context it is important to find out whether there are any groups that can influence domestic prices to their benefit. Here we can think of interests of urban vs rural population, different tribes and clans, interests of large traders, politicians, etc.

For sake of analysis let's assume the case of a country where part of the food consumption is nationally produced, and part is imported. Let's now assume that it is considered to stop the imports of food, and farmers get paid a 'fair' price as defined before, for their products.

Then we have two situations, one with and one without imports. We call the situation as it is (so with food imports) the situation-without, and the new situation where food imports are replaced by locally grown food, the situation-with project. Now we can analyze the differences between the situation-without, and the situation-with project.

Direct economic effects are price rises for consumers, higher profits for producers, less import duties for the state, higher turnover for inland traders, lower turnover for importers.

Among the indirect economic effects are the measures taken by governments to make up for their loss in import duties: will this be translated in higher taxes or lower public spending?

So what will happen?

Market prices of food will change. In short term because there is less supply because imports are stopped. In the long run local producers must prove that they can and will fill the gap left by the disappeared imports. This will imply higher income for them. In time a new equilibrium will be established. The farmer's additional income will lead to a higher demand of other products. The multiplier effects will depend on how much will be spent on local products and how much on imports.

For the state the fall of imports has two different effects. On the one hand, foreign exchange is saved that can be used to other purposes, on the other hand the state does not receive import duties. So there are positive as well as negative effects.

The exports of food products are not affected by the ban on imports. There is no need to end export subsidies.

As said before, the change in market prices will have an economic impact on the whole population. Producers will be able to receive higher prices, consumers will have to pay more. There will be effects on suppliers to the farmers, transporters etc.

Besides economic effects there are also social effects. More income for the producers leads to better access to health services, better education possibilities for their children etc. Higher prices for the urban population lead to the same effects for them but then in a negative way because of the rising costs of living.

To analyze all these effects, we can make use of the FAO manuals referred to before (FAO 2005a and FAO 2005b). By using that methodology, we can calculate direct and indirect economic effects, as well as value added.

When using shadow prices, special attention should be paid to opportunity costs. Opportunity costs mean that the realization of an option with benefit A, excludes another realization with benefit B. In this case this involves opportunity costs of the land, as well as of labour. What are the alternative uses of land and of labour?

The case of labour requires our special attention. A frequent problem with rural areas is that there is no or hardly any, industry and that a great deal of the year there isn't any employment in agriculture either. During the peak months however, like during the harvest, more hands are needed than are available. This means that at those times an agricultural labourer can theoretically rent his services to the best paying farmer, but that during the remainder of the year he hasn't got any income. This means that the opportunity cost of labour is different during different periods of the year.

Now we should extend our analysis further to who is profiting and who is paying the bill in both the situation-without, as well in the situation-with project.

Opportunity costs can give us insight in the macro-effects of the project, but do not provide an answer to the distribution of costs and benefits. That benefits are unequally distributed appears in various publications concerning income distribution within countries. So here we'll have to enter the realm of elites and of monopolistic situations (the two may overlap). Value added is important to look at per group of beneficiaries. Are benefits larger than costs? If so, for whom?

Value added is important to calculate. But then, after that, we should make a careful analysis how economic and social benefits and costs are distributed, both in the situation-with, as situation-

without project. Here we could make a distinction between producers, consumers, state and intermediaries. For each of these categories direct as well as indirect effects will have to be taken into account.

The results of the analysis can be used as an input for political discussions as how to distribute costs and benefits optimally. Are there signals of exploitation of one group of the population by another, be it domestic or international? How are relations between different classes in society? What is the role of international and national elites and pressure groups?

Small farmers do not live of their food crops only though. They may have cash crops as well, or do all kinds of other jobs. The income generated by these activities may be quite important compared to the income they derive from their food crops. The higher amount they earn with other occupations, the less dependent they are of the yields of food crops. This stresses the importance of additional employment in the rural areas.

So you may say that, the more alternative remunerative rural employment available, the lower the price needed to guarantee the farmers a decent income.

## **Conclusion**

In order to evaluate the effects of interventions and applied policies on the small farmer, several methodologies should be applied instead of only the traditional economic approaches. FAO 2005a and 2005b provide a good starting point. Their analysis should be supplemented by an analysis of distribution of costs and benefits, financial, economic and social, between several sectors and actors in society though. The effects on specific groups of small farmers can be analysed by calculation of the Living Income they should earn to be able to live in a decent way as well as to have some possibilities to make small investments as well. This Living Income can be calculated for both situation-without as well as situation-with project.

An important tool is the calculation of 'fair' prices that:

- Indicate the price the producer should receive and this way forces policy makers to reflect about non-essential food imports that suppress producers' prices
- Encourage a further investigation into power relationships, a subject too often neglected by economists, and
- Emphasize the need to take actions to stimulate support to small farmers and creation of alternative rural income.

Further elaboration of such an integrated approach of different methods is necessary to prevent small farmers be forced out of their livelihood.

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#### Keywords

Agriculture, small farmers, rural development, economic and social project analysis, living income, fair price