

Feedstocks for industry versus food for all?

The utilisation of farmed biomass for energy purposes has the reputation of negatively impacting on global food markets. Critics anticipate a battle for a share of affordable food – particularly for the very poor in the developing countries – and worry that bioenergy expansion will lead to “full tanks and empty plates.” But are their fears really justified?

The numbers are impressive: 26 million tonnes of cotton, about 9 million tonnes of natural rubber and 3.5 million tonnes of jute are produced each year for use as industrial feedstock. Together they occupy an area of several million hectares of the world's fertile land. Cotton alone now accounts for 35 million hectares – the equivalent of three times the entire arable area in Germany. To date, however, there has never been any serious suggestion that cotton, jute, copra or rubber could compromise future food production.

These classics of farmed biomass have been important commodities in global trade for a very long time now. They were already being cultivated for industrial purposes back in the 19th century. The industrial revolution in Europe would have been virtually inconceivable were it not for cotton and the textile industry it supported. And without rubber society would not have developed as it did. The vulcanisation of rubber, which made it possible to use rubber commercially, first set the wheels of mobility in motion. With jute it was admittedly a different story. This fibre plant once achieved global prominence as a feedstock for all types of packaging, but in the course of the 20th century it was displaced by synthetic, oil-based packaging materials. Although jute is far less in demand around the world today, it



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3,5 million tonnes of jute are produced each year for the use as industrial feedstock. Its production is still essential for more than 12 million farmers in Bangladesh and eastern India.

is still an indispensable element of the crop rotation that is integral to agriculture in Bangladesh and eastern India. Currently it plays an essential role in the livelihoods of 12 million farmers. Another important factor is the peak workload of jute cultivation. The crop is harvested in the wet season, when large areas of the country are flooded and there is plenty of water available for soaking the fibres. But this fibre crop not only generates work in the fields. According to the International Jute Study Group, 4 million people in India and Bangladesh are also involved in the post-harvest processing of the fibres.

The significance of rising world market prices for agricultural products

Although jute has largely fallen out of favour in modern Europe, the demand for cotton and latex milk, the sap from the *Hevea brasiliensis* tree, remains strong. The areas under cultivation are continuing to expand. Cotton is still gaining ground in Central Asia (China, Uzbekistan) and India. At the same time the ecologically poor rubber plantations mainly in Southern India, Thailand and Vietnam are also being enlarged. Major landowners and farmers often plant dry-rice fields with rubber trees. The reason for this is obvious: they earn more from latex milk than from rice or other arable crops. Prices have risen in parallel with the oil price over the past few years and, with the

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worldwide increase in mobility and attendant demand for tyres, this situation is unlikely to change any time soon.

The cotton industry is in a similar position. With an increasing global population and rising prices for oil-based synthetic fibres, a growth in demand from the textile industry is virtually inevitable. It is doubtful, however, whether the cotton farmers of Africa, Latin America and India will reap the benefits of the higher prices. The massive subsidies paid to North American cotton producers, for instance, have placed the unsubsidised Africans at a distinct disadvantage. To at least partially offset this ongoing discrimination, the Hamburg-based trading company Otto Group, together with non-governmental organisations – including Welthungerhilfe – has launched the market-oriented campaign entitled „Cotton Made in Africa“. In the long term, however, it is up to the international community through the World Trade Organization (WTO) to provide

a framework of agricultural policy, so that the inequalities on global markets can be firmly assigned to the past.

This complex problem is still unresolved. The matter is now more pressing than ever before, however, because global agricultural markets are clearly gearing up to increasingly utilise farmed biomass – such as maize, wheat, sugar cane, sunflowers and canola – to generate electricity, heating/cooling energy and bio-fuels. The current dynamism in the bioenergy sector has also resulted in a global price rise for agricultural products. There is growing pressure on agricultural land everywhere: in addition to food and feed, as well as traditional farmed biomass, now fuel must also be accommodated. In principle rising prices are not a bad thing; they act as an incentive to producers to increase their output. The situation could also be seen as an opportunity for many farmers in the developing countries to break out of the subsistence economy.

costs, but ultimately this has only been possible at the expense of the agricultural producers. Although most economists in Germany view these low food prices as a clear indication of prosperity, many agricultural experts today consider them too low, because there is no surplus to invest in sustainable development in agriculture or society in general.

For this reason agronomist Dr. Klaus-Dieter Schumacher of the Hamburg trading company, A. C. Toepfer International, also warns that food prices cannot stay low indefinitely. He refers to the current rising prices for grain on world markets. These cannot be attributed to bioenergy alone, but are due to a combination of several factors. „Increasing consumption, dwindling stocks, crop failures and the demand for bioenergies are all driving prices up,“ says Schumacher, „and on top of that there’s speculation.“ For these reasons the grain market is going through a critical phase, in his opinion. „I’m not saying that we’ll be going hungry in future, but if we continue to see failed harvests as a result of weather conditions, then we are going to experience shortages such as those in the starch industry,“ he says. In principle, however, Schumacher sees no contradiction between farmed biomass and food security. „It is more a question of management,“ he believes. He has faith in the ability of the agricultural sector to satisfy the growing global demand for agricultural products for a variety of different purposes. He claims that what is new in the current market situation is that, in contrast to traditional farmed biomass such as rubber, energy crops such as maize represent the directly conflicting interests of food and fuel.

Have agricultural feedstock prices been undervalued?

Regardless of these political and socio-economic restraints, many market observers consider that most agricultural feedstocks have been chronically underpriced for years now compared to industrial prices. EU consumers have benefited from the drop in food prices to a historic low of 12 to 14 percent of total living

Are industrial feedstocks displacing food production?

Nonetheless, „biofuels in the West are not triggering any famines in Africa,“ says Rafael Schneider of Welthungerhilfe, distancing himself from



Photo: agenda/mko

The areas for rubber plantation still expand, mainly on rice fields, as farmers earn more from latex milk production than from rice.

Zusammenfassung

Die steigende Nachfrage nach agrarischen Rohstoffen für die Erzeugung von Biokraftstoffen, Strom und Wärme hat einen nachhaltigen Einfluss auf die Weltagrarmärkte. Daran besteht kein Zweifel. Allerdings ist der Anbau von Agrarrohstoffen für den Nonfood-Bereich nicht neu. Klassiker wie Kautschuk, Jute und Baumwolle werden großflächig angebaut, ohne dass diese verdächtigt werden, die Welternährung zu gefährden. Fazit: Statt

Parolen wie „volle Tanks und leere Teller“ bedarf es in Zukunft einer differenzierten Betrachtung, um Chancen und Risiken der Bioenergien besser abzuwägen.

Resumen

La creciente demanda de materias primas agrícolas para la producción de biocombustibles, electricidad y calor ejerce una influencia sostenible sobre los mercados agrícolas mundiales. Sobre esto no cabe ninguna duda. Sin embargo, el cultivo de

materias primas agrícolas para el sector no alimentario no es una novedad. Los cultivos clásicos como el caucho, el yute y el algodón abarcan grandes superficies agrícolas sin que nadie sostenga que amenazan la nutrición de la población mundial. En pocas palabras: en lugar de enarbolar lemas como el de “tanques llenos y platos vacíos”, en el futuro es necesario proceder a un análisis diferenciado, a fin de evaluar mejor las oportunidades y los riesgos de las bioenergías.

such sweeping statements as “massive bioenergy expansion will lead to full tanks for the rich and empty plates for the poor.” Schneider recalls his work for the German Development Service (DED) in Chad. “There is plenty of food for sale at the local markets, but the people simply don’t have the money to buy it.” For these people, therefore, rising food prices are a serious problem. Although Schneider emphasises that “the right to food overrides the right to drive a car,” he is not against biofuels per se. “They are a great opportunity for the developing countries too,” he says, “but it is important to exercise caution when introducing them to different regions, and to assess all the risks involved.” In the meantime Schneider sees a major need for more research into how farmed biomass and food production actually interact, to allow serious evaluation on a case by case basis.

According to Elke Hortmeyer of the Bremen Cotton Exchange, there is “no danger” of cotton displacing food production. The cotton expert believes that, with a total area of 35 million hectares devoted to cotton cultivation, the ceiling has been reached. “If production would nonetheless need to increase, then this will more likely come from higher yields per hectare.” Of course, with popula-

tion growth and the simultaneous loss of fertile land to urbanisation or desertification, the same applies to other agricultural products. They too can only be produced in sufficient quantities when per hectare yields increase. The ideal situation would be for energy crops to be cultivated in regions where other crops can not thrive. The modest jatropha plant offers a ray of hope for the future of oil for biodiesel production. This oil seed can be cultivated on extremely dry, marginal land and therefore does not displace any plants which are grown for food.

Without doubt jatropha is only one of many examples of energy crops that could be integrated in sustainable agricultural and energy strate-

gies – just like farmed biomass for use as industrial feedstock. In this respect the development policy magazine for public-private partnerships published by GTZ (Deutsche Gesellschaft für Technische Zusammenarbeit – German Technical Cooperation) recently featured an article entitled “Clean Energy for Latin America,” describing the positive effects expected from the cultivation of sunflowers in the Lima region of Peru. The local farmers will derive an income from the crop, and the oil will be used to power some of Lima’s buses, thus helping to improve the air quality in the city. This is just one of many small examples that show how farmed biomass can have a far from negative impact on food.



Photo: Jörg Böthling

Experts expect no further increase of production areas for cotton. Thus cotton will not represent a threat to food production.