

May 2014



The International Treaty ON PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE



E

Item 4 of the Provisional Agenda

FIRST MEETING of the **AD HOC OPEN-ENDED WORKING GROUP TO ENHANCE THE FUNCTIONING OF THE MULTILATERAL SYSTEM**

Geneva, Switzerland, 13–16 May 2014

BACKGROUND ON THE WORK UNDERTAKEN BY THE AD HOC ADVISORY COMMITTEE ON THE FUNDING STRATEGY, AND ITS FURTHER DEVELOPMENT

EXECUTIVE SUMMARY

1. This document reviews the outcome of the deliberations of the *Ad Hoc* Advisory Committee on the Funding Strategy, during the previous biennium, which will now be taken up by this Working Group.
2. It considers *The Strategic Plan for the Implementation of the Funding Strategy, 2009–2014*, and why its target of USD 116 million was not met, in particular, the reasons behind the failure to achieve user-based income.
3. It analyses the various proposals for addressing these problems that are embodied in the innovative approaches that the *Ad Hoc* Committee identified. All approaches require changes to the current working of the Multilateral System, which the document identifies. The Working Group is invited to consider further possible innovative approaches, and to identify anything needed for their further development.
4. The Governing Body has requested that *a range of different innovative approaches that could provide a part of an adequate and sustainable flow of income to the Benefit-sharing Fund* be addressed by the Working Group. They can then be combined in a packet with other sources of income — particularly contributions from Governments — with the aim of creating a predictable and sustainable flow of adequate financial resources to the Benefit-sharing Fund.
5. The Governing Body decided that the Working Group will employ a phased approach: first, measures to increase income to the Benefit-sharing Fund, in particular user-based payments; and secondly, other measures to enhance the functioning of the Multilateral System, which include possible expansion of the System's crop coverage. Careful planning of the work during the biennium will be crucial.

TABLE OF CONTENTS

	Para.
I. Introduction	1–10
II. <i>The Strategic Plan for the Implementation of the Benefit-sharing Fund</i>	11–30
III. Factors leading to the shortfall in user-based income for the Benefit-sharing Fund	31–53
The speed of plant breeding	32–34
The availability of material, and type of material	35–37
Alternative sources of materials	38–39
Avoidance of SMTA material and the problem of voluntary payments	40–46
The imbalance of payment rates between options	47–50
Transaction costs for receivers	51–53
IV. Key structural factors to be taken into account in developing innovative approaches	54–78
Addressing the problem of voluntary payments	54–56
Addressing the problem of the avoidance of material under SMTAs	57–60
Variation of the levels of payment, and different categories of recipient	61–65
Transaction costs	66–68
Innovative approaches that do not rely on specific provisions of the Treaty	69–72
The availability of material, and <i>Annex 1</i> to the Treaty	73–77
The “toolbox” for the further development of user-based innovative approaches	78
V. The Innovative approaches already identified and relationship to the key structural factors identified	79–110
SMTA-based approaches	84–98
Revisiting Articles 6.7/6.8 and 6.11	84–96
Upfront payments on access, to be discounted against payments due on the commercialization of a product	97–98
Non-SMTA-based approaches	99–110
Promoting regular seed sales-based contributions by Contracting Parties	99–102
Novel ways to attract use-based voluntary funding	103–106
Expanding the coverage of the Multilateral System	107–110
VI. Creating and evaluating a packet of measures to increase income to the Benefit-sharing Fund	111–115
VII. Matters to be considered by the Working Group in this meeting	116–123

	Figures	Page
1. Planned sources of income for the USD 116 million target in <i>The Strategic Plan 2009–2014</i>	3	
2. Actual income, compared to the target in <i>The Strategic Plan 2009–2014</i>	5	
3. Materials theoretically and actually available, under an SMTA	7	
4. Games theory and voluntary payment — a lose-lose scenario	9	
5. Income by crop and crop group at 0% voluntary payment	10	
6. Main factors distinguishing the options under SMTA Articles 6.7/6.8 and 6.11	10	
7. The possible reduction of transaction costs under Articles 6.7/6.8 and 6.11	18	
8. Projected annual income at 2081 (USD million), modelling an increase in Treaty membership, and an increase in crop-coverage	22	
9. Assembling a range of measures to provide an adequate and sustainable flow of income to the Benefit-sharing Fund	23	
10. The build-up of user-based income for the Benefit-sharing Fund	23	
11. Projections by membership, and Annex 1 and non-Annex 1 material, at 2081	24	

I. INTRODUCTION

1. At its Fifth Session, by Resolution 2/2013, the Governing Body established the *Ad Hoc* Open-ended Working Group to Enhance the Functioning of the Multilateral System (the “Working Group”), to continue and complete the work initiated by the *Ad Hoc* Advisory Committee on the Funding Strategy (the “*Ad Hoc* Advisory Committee”), during the previous biennium.
2. The present document reviews the current state of the work to develop a range of measures to increase user-based payments, and contributions to the Benefit-sharing Fund, in a sustainable and predictable long-term manner, and enhance the functioning of the Multilateral System by additional measures. It pays particular attention to the outcome of the deliberations of the *Ad Hoc* Advisory Committee, during the previous biennium, which will now be taken up by this Working Group.
3. The Treaty balances access to plant genetic resources for food and agriculture and the sharing of the benefits. Monetary benefits are foreseen on the commercialization of products (seeds and planting materials) that descend from materials accessed under the Treaty. The Standard Material Transfer Agreement (SMTA) operationalizes this user-based benefit-sharing mechanism. These moneys flow into the Benefit-sharing Fund, which also receives moneys from direct contributions by Contracting Parties, the private sector, non-governmental organizations and other sources. It supports projects focussed on farmers in developing countries, who conserve and sustainably utilize plant genetic resources for food and agriculture, according to procedures agreed by the Governing Body.
4. User-based monetary benefit-sharing therefore derives from plant breeding, which, by its nature, is a slow process, and it has always been recognized that the build-up of user-based income would be slow. For this reason, the Governing Body welcomed a *Strategic Plan for the Implementation of the Benefit-sharing Fund*, in 2009, which focused on mobilizing non-user-based contributions, primarily by Contracting Parties. *The Strategic Plan* included the establishment of a target of US\$ 116 million for the period from July 2009 to December 2014.
5. For a number of reasons, including the current world economic crisis, this target has not been met. Moreover, no user-based moneys have yet appeared. This document analyses actual income to the Benefit-sharing Fund, against the provisions of *The Strategic Plan*. The shortfall from the target led the *Ad Hoc* Advisory Committee to identify and bring to the attention of the Governing Body a number of possible innovative approaches to improve user-based income, which the Governing Body has now tasked this Working Group to develop further, for consideration and adoption at its Sixth Session.
6. The *Ad Hoc* Advisory Committee considered some of the reasons that appear to be behind the failure to generate user-based income. This document summarizes these factors, as well as the various approaches to resolving them that are embodied in the innovative approaches that the Committee identified. The further development of these, and possibly other innovative approaches, is the mandate of the Working Group, during this biennium.
7. These innovative approaches would all require certain changes or modifications to the current working of the Multilateral System. The document therefore identifies these modifications, and ways in which they could be implemented. A number of these modifications are already envisaged in the decisions that the Governing Body may wish to take in the context of the impending reviews and assessments under the Multilateral System. They could also form the basis for identifying further innovative approaches. The Working Group is therefore invited to identify the information that it wishes to be assembled, and the consultations it wishes to undertake, for their further development, and to consider further possible innovative approaches.

8. The information base for considering the possible effects of these approaches on income to the Benefit-sharing Fund was strengthened with the preparation, during the last biennium, of the study, *Assessing the Potential for Monetary Payments from the Exchange of Plant Genetic Resources under the Multilateral System of the International Treaty on Plant Genetic Resources for Food and Agriculture*,¹ the preparation of which was supported by the Government of Australia. The Governing Body has called for a number of further studies, taking into account reports of the *Ah Hoc* Advisory Committee on the Funding Strategy, and the *Ad Hoc* Technical Advisory Committee on the Multilateral System and SMTA. Information on their state of preparation is provided in document IT/OWG-EFMLS-1/14/inf. 2.
9. Moreover, the Governing Body stressed the importance of analysing the factors that influence the willingness of stakeholder groups to make contributions to the Benefit-sharing Fund, and to access plant genetic resources for food and agriculture from the Multilateral System. With this in mind, a substantial programme of consultations and discussions with stakeholders, by the Secretariat itself, and by others, is already well underway, and the Working Group may wish to take this into account in its planning. The document IT/OWG-EFMLS-1/14/inf.3 covers the consultation process.
10. The Governing Body tasked this Working Group to draft and prepare for its consideration and decision at its next session the measures that it proposes. Current planning is for two further meetings of the Working Group in the biennium. The Governing Body also decided that the Working Group should work in two phases; it should first consider innovative ways to increase user-based payments and contributions to the Benefit-sharing Fund in a sustainable and predictable long-term manner, and then additional measures to enhance the functioning of the Multilateral System, which includes possible expansion of the Treaty's crop coverage. In the light of the complex and sequential tasks before the Working Group, the time and resources available will need to be employed with the utmost efficiency. Document IT/OWG-EFMLS-1/14/5 therefore identifies when the various inputs to the process will become available, in order to assist the Working Group in sequencing and prioritizing its deliberations during the biennium in the most productive manner.

II. THE STRATEGIC PLAN FOR THE IMPLEMENTATION OF THE BENEFIT-SHARING FUND

11. By Article 18 of the Treaty, Contracting Parties undertake to implement a funding strategy for the implementation of the Treaty. Article 18.3 provides that the Governing Body shall periodically establish a target for such funding. Article 18.4 stipulates the sources of funds:
 - The effective allocation of predictable and agreed resources for plans and programmes relevant for the implementation of the Treaty, within the Governing Bodies of relevant international mechanisms, funds and bodies;
 - Financial resources provided by Contracting Parties that are developed countries, through bilateral and regional and multilateral channels;
 - Voluntary contributions from Contracting Parties, the private sector, non-governmental organizations, and other sources unrelated to access to materials from the Multilateral System; and
 - The financial benefits arising from Article 13.2d(ii) (that is, the user-based payments to the Benefit-sharing Fund).
12. Article 13.6 also foresees voluntary benefit-sharing contributions from Food Processing Industries.

¹ http://www.planttreaty.org/sites/default/files/Identifying_Benefit_Flows.pdf. For concision, this study will be referred to in the remainder of this document as “Potential”.

13. By Resolution 1/2006, the Governing Body adopted a Funding Strategy,
recognizing that the extent to which Contracting Parties that are developing countries and Contracting Parties with economies in transition will effectively implement their commitments under the Treaty will depend on the effective allocation, particularly by developed country Contracting Parties, of the resources referred to in Article 18 of the Treaty.
14. The Resolution also established the *Ad Hoc Advisory Committee on the Funding Strategy*.
15. Resolution 3/2009 then welcomed *The Strategic Plan for the Implementation of the Benefit-sharing Fund of the Funding Strategy*, recalling that:
the aims of the Funding Strategy are the development of ways and means by which adequate resources are available for the implementation of the International Treaty, and the transparent, efficient and effective utilization of all resources made available under the Funding Strategy.
16. The Governing Body agreed that the *Strategic Plan* constituted a basis for the implementation of the Benefit-sharing Fund, by the Secretariat and the Contracting Parties. The Governing Body established the target of USD 116 million for the period between July 2009 and December 2014. The target is to be reviewed by the Governing Body on a regular basis, as foreseen in Treaty Article 18.3. This equates to an average annual target of USD 23 million. It also mandated the *Ad Hoc Advisory Committee* to consider innovative approaches to fund-mobilization. *The Strategic Plan* constitutes an agreed basis for the achievement of the goal of USD 116 million for the Benefit-sharing Fund, over a five-year period. It sets out a strategy to achieve this goal, through voluntary contributions from Contracting Parties and others.

Sector	Treaty Constituencies Rational for Support	Relative Share of the Total Targets (%)
Contracting Parties	<ul style="list-style-type: none"> • Should constitute the base of support for the Treaty and its aims. • Direct over USD 2 billion a year in ODA to agricultural projects. The Benefit-sharing Fund should be the recipient of some portion of these funds. • Their support is essential if the Treaty is to be successful in raising funds from other contributors. 	75 – 85
States which are not yet Contracting Parties	<ul style="list-style-type: none"> • While the primary base of support comes from the Contracting Parties, as the Treaty specifies, nothing prevents states who are not (yet) Contracting Parties from making voluntary contributions to the Fund. 	0 – 1
Private Sector	<ul style="list-style-type: none"> • Food security is an issue of concern around the world. • Prospects for support would include philanthropic private sector companies around the world. 	7 – 11
Foundations /Donor Advised Funds	<ul style="list-style-type: none"> • Foundations are a growing source of funds for international donations. • Foundations have the capacity to make seven- and eight-figure commitments over a multi-year period. 	7 – 11
Individuals	<ul style="list-style-type: none"> • Significant potential to cultivate donors with interest in themes of global food security, Bioversity, sustainability, and international cooperation who can make six- and seven-figure personal commitments. 	1 – 2

Fig 1: Planned sources of income for the USD 116 million target in *The Strategic Plan 2009–2014*²

² *The Funding Strategy*, p. 13, tab. 3.

17. Neither the Resolution nor *The Strategic Plan* specifically mentions user-based contributions, nor they are not included in the planned sources of income. The bulk of the target is to be funded by contributions from Contracting Parties, but contributions from other sources are also foreseen. The planned contribution targets for the various sources of funds for this period are shown in fig. 1.
18. The first results were encouraging. Resolution 3/2011 welcomed the excellent progress in the implementation of the *Strategic Plan*. It noted, however, that reaching the target of US\$ 116 million by 2014 was challenging, emphasized the need to further explore innovative approaches, and requested the *Ad Hoc* Advisory Committee to advise on resource mobilization.
19. During the 2012-2013 biennium, however, the *Ad Hoc* Advisory Committee:

noted with concern that the Contracting Parties were not meeting the targets which they had set for themselves in the Strategic Plan for the implementation of the Benefit-sharing Fund. It noted that a large shortfall of funding had accumulated in relation to the Strategic Plan.
20. At the time of preparing this document, the total moneys contributed to the Benefit-sharing Fund were as in fig. 2. There are no indications that the situation is likely to change substantially by the end of the current *Strategic Plan* period, that is, by December 2014.
21. *The Strategic Plan* relied on contributions from Contracting Parties for 75–85% of the total, or ± USD 92.8 million; 23.23% of this target was achieved, and only nine countries contributed, in widely varying amounts. No non-parties, foundations or individuals contributed.
22. *The Strategic Plan* did not foresee payments resulting from the use of material received under an SMTA among planned sources of income, and none materialized. A small contribution was received from one company, representing 0.01% of the private sector target.
23. All planned sources of income together achieved 18.59% of the target of USD 116 million.
24. An unplanned contribution, equivalent to 1.29% of the target, resulted from partnering with one international organization, IFAD.
25. Two unplanned innovative approaches — the Norwegian initiative to contribute the equivalent of 0.1% of the value of seed sales on the national territory; and a contribution for access to a seed trade patent licensing platform established as a private sector initiative, which requires such a contribution as a condition of access — also contributed.³ Both these unplanned innovative approaches delivered income to the Benefit-sharing Fund, during the period of the *Strategic Plan*.
26. All contributions taken into account, the actual income to the Benefit-sharing Fund amounted to 20.45% of the USD 116 million target. Fig. 2 — and indeed the planned sources of income for *The Strategic Plan 2009–2014* — show clearly the difficulties of mobilizing voluntary contributions from non-members, foundations, the private sector and individuals. This is usual for action funds associated with international agreements of the nature of the Treaty. Commercial private sector entities — even very large ones — do not have a history of making substantial contributions to action funds over which they have limited influence, and foundations usually have specific priorities and application processes for accessing their funds.

³ http://www.planttreaty.org/sites/default/files/Notification_of_Syngenta_elicensing.pdf and <http://www.planttreaty.org/sites/default/files/Letter%20E-Licensing.pdf>.

	TARGET		ACTUAL	
	%	USD	%	USD
CONTRACTING PARTIES				
Australia				870,000
Germany				598,500
European Commission				6,650,000
Indonesia				100,000
Ireland				659,800
Italy				3,810,229
Norway				6,495,088
Spain				2,348,935
Switzerland				28,612
Sub-total	75–85%	± 92,800,000	23.23%	21,561,164
OTHER COUNTRIES				
Sub-total	0–1%	± 580,000	0.00%	0
PRIVATE SECTOR				
Canadian seed company				1,211
Sub-total	7–11%	± 10,440,000	0.01%	1,211
FOUNDATIONS				
Sub-total	7–11%	± 10,440,000	0.00%	0
INDIVIDUALS				
Sub-total	1–2%	± 1,740,000	0.00%	0
TOTAL FUNDING STRATEGY	100%	116,000,000	18.59%	21,562,375
UNPLANNED: INTERNATIONAL FUNDS				
IFAD				1,500,000
Sub-total	Unplanned	116,000,000	1.29%	1,500,000
UNPLANNED: INNOVATIVE APPROACHES				
Norwegian initiative: 1.1% of national seed sales				648,178
Seed trade licencing platform				6,416
Sub-total	Unplanned	116,000,000	0.56%	654,594
TOTAL UNPLANNED	Unplanned	116,000,000	1.86%	2,154,594
GRAND TOTAL	Planned & unplanned	116,000,000	20.45%	23,716,969

Fig 2: Actual income July 2009–February 2014, compared to the target in *The Strategic Plan 2009–2014*

27. This means that the two most solid sources of income are likely to remain Contracting Party contributions, and user-based payments, provided factors currently inhibiting the mobilization of such payments are addressed, with the aim of increasing over time the relative parts of their contribution to meeting *Strategic Plan* targets. It may be necessary to approach this in a phased way, relying more in the earlier phases on government contributions, until an effective flow of user-based income can make a significant contribution. For the successful mobilization of income for the Benefit-sharing Fund in a sustainable and long-term manner, the Governing Body has highlighted that the predictability of income from all sources is a major objective.
28. In the light of the short-fall in the contributions of Contracting Parties, the *Ad Hoc* Advisory Committee reviewed the factors that were behind the lack of user-based income, and, as requested by the Governing Body, identified and explored a number of innovative approaches to mobilizing such income.⁴ These include the two innovative approaches that have already — successfully and practically — contributed to the Benefit-sharing Fund: the Norwegian Initiative, and seed trade Licencing Platforms. The *Ad Hoc* Advisory Committee and a Vegetable Industry Working Group initiated a direct dialogue with industry and other stakeholder groups, for the consideration of such private sector initiatives, and the current Working Group will need to explore their potential further.
29. The innovative user-based approaches identified by the *Ad Hoc* Advisory Committee are the starting point for the Working Group, in this biennium.
30. The current *Strategic Plan for the Implementation of the Benefit-sharing Fund of the Funding Strategy* expires at the end of 2014. The recommendations of the Working Group will assist the Governing Body in updating the *Strategic Plan*.

III. FACTORS LEADING TO THE SHORTFALL IN USER-BASED INCOME FOR THE BENEFIT-SHARING FUND

31. The *Ad Hoc* Advisory Committee considered the factors that are most likely to be behind the failure, to date, of the Multilateral System and its SMTA to generate an adequate and timely flow of income to the Benefit-sharing Fund, as envisaged in Treaty Article 13.2d(ii). They took into account the findings of *Potential*. The Committee also initiated a direct dialogue with the seed industry and other stakeholders, both through its Co-chairs and in plenary sessions, both regarding the industry's perceptions of the Multilateral System and the SMTA, and specific innovative approaches. The main factors that have been identified fall into a number of categories.

The speed of plant breeding

32. It has always been recognized that plant breeding is a slow process. The capacity of the Multilateral System to generate a flow of income is therefore dependent on two factors: (1) the speed at which material is accessed from genebanks under SMTAs, and (2) the length of time before such material is incorporated in commercialized products. On the basis of a survey of breeders, a rough estimation of the lag-time between access and incorporation is 5.5 to 19.3 years, depending on the crop, and whether or not the material accessed is improved material.⁵

⁴ The reports of the *Ad Hoc* Advisory Committee are at
http://www.planttreaty.org/sites/default/files/gb5i4e_Report_of_the_ACFS7.pdf,
http://www.planttreaty.org/sites/default/files/gb5i4ea1_Resumed_ACFS7_RES1.pdf, and
http://www.planttreaty.org/sites/default/files/gb5i4ea1_Resumed_ACFS7_RES2.pdf

⁵ *Potential*, p. 260, and p. 151. The substantial narrowing of the lag-time, with improved materials, is modelled on pp. 150-151, fig. 3.25. Improved materials form between 85% and 95% of releases from CGIAR genebanks.

33. Given that the Treaty entered into force on 29 June 2004, and that the SMTA was adopted on 16 June 2006, this lag-time may explain, at least partially, the fact that no single user-based payment has yet been received. Whatever the case, it must be recognized that the build-up of contributions will at best be slow, so that the current arrangements cannot contribute substantially to the Benefit-sharing Fund for many years: under current conditions — even assuming an unrealistically high degree of the voluntary payments in accordance with SMTA Article 6.8, it is unlikely that an annual income through user-based payments equal to the current target will be achieved for decades.
34. The implication is that innovative approaches should target an increase in the speed of build-up, as this will determine the length of time that the Benefit-sharing Fund will need to continue to rely on funds other than those derived from user-based income due on the commercialization of a product.

The availability of material, and type of material

35. Fig. 3 shows the materials theoretically and actually available, under an SMTA. The potential volume of user-based income depends absolutely on the quantity of material actually available for access under an SMTA. *The Report on the implementation of the Multilateral System of Access and Benefit-sharing* received by the Governing Body at its last session shows that substantial parts of Contracting Parties' holdings of *Annex 1* crops have not yet been made available, and that some of those Contracting Parties that have made their holdings available have also made available substantive quantities of non-*Annex 1* materials, as fig. 3 shows. However, judging from notifications to the Secretary, only 37 of 131 Contracting Parties appeared to have yet made any material available.⁶ Every delay in making material available inevitably delays benefits to the Benefit-sharing Fund, over and above the breeding lag-time. Increasing the real availability of materials under the SMTA will therefore be a crucial factor in ensuring the effectiveness of innovative approaches.

Crops	World <i>ex situ</i> holdings (accessions)	World holdings: % with Parties	% of Parties' holdings actually available	World holdings: % with Institutions	% of Institutions' holdings actually available	World holdings: % with Parties + Institutions	% of Parties' + Institutions' holdings actually available	% of total world holdings actually available
Wheat	911,405	49.92	26.89	16.85	100.00	66.76	45.34	30.27
Rice	782,628	38.54	2.46	16.70	100.00	55.24	31.94	17.65
Maize	326,159	40.55	8.78	8.23	100.00	48.78	24.18	11.79
Other <i>Annex 1</i>	2,492,448	57.24	24.55	12.08	99.06	69.32	37.53	26.02
Non- <i>Annex 1</i>	2,484,244	58.42	4.46	2.68	74.91	62.00	8.52	5.28

Fig. 3: Materials theoretically and actually available, under an SMTA⁷

36. A further factor cited by the seed industry as hampering the attractiveness of the Multilateral System, which limits potential income to the Benefit-sharing Fund, is the currently limited crop coverage of *Annex 1*. This is especially true for vegetables, many of which are not included in *Annex 1*. Vegetables constitute a substantial part of the non-*Annex 1* category,

⁶ IT/GB-5/13/5, Appendix.

⁷ IT/GB-5/13/5, http://www.planttreaty.org/sites/default/files/gb5w05e_Report_MLS_final.pdf, paragraph 28.

and, as their commercial value is high, the vegetable sector could be a significant contributor to the Benefit-sharing Fund, if the Treaty covers a larger set of plant genetic resources for food and agriculture. In this context, vegetable breeders, in particular, have stressed the importance of increasing the number of crops accessible under SMTAs.

37. It also appears that the rate of return to investment in the vegetable sector is substantially higher than, for example, in the grains sector, which can make the vegetable seed industry an important interlocutor, in developing innovative approaches.

Alternative sources of materials

38. Much of the material in the Multilateral System is available outside the Multilateral System, because of duplication in international and national *ex situ* collections. Moreover, many duplicate or similar materials were held by private sector breeders before the entry into force of the Multilateral System, and, although the Treaty provides for natural and legal persons within the jurisdiction of Contracting Parties to be encouraged to bring their materials into the Multilateral System,⁸ only two have so far done so.⁹ Other duplicate materials are available from Non-Contracting Parties which still provide material with less restrictive provisions than those in the SMTA. These factors reduce the need to access material from the Multilateral System, at least in the short term; increase the opportunity costs of accessing material from the System, and lead to avoidance of material under an SMTA; and result in there not being a level playing field between those who are under a financial obligation to the Treaty, with attendant additional extra transaction costs, and those who are not.
39. The Treaty has no power over materials held by natural and legal persons who do not wish to bring their holdings under the Treaty, or by countries that are not Contracting Parties, and so may have to address the problem through a combination of incentives for using the Treaty, and disincentives for avoiding the Treaty.

Avoidance of SMTA material and the problem of voluntary payments

40. The SMTA provides for three different payment regimes on commercialization of a product.
 - In accordance with Article 6.7, *mandatory* payments arise when a product “that is a Plant Genetic Resource for Food and Agriculture and that incorporates Material” accessed under an SMTA “is not available without restriction to others for further research and breeding”. Article 6.7 applies to single samples of material, provided under an SMTA.
 - In accordance with Article 6.8, *voluntary* payments arise when the product “is available without restriction to others for further research and breeding”.
 - Article 6.11 provides a recipient with the option of an alternative payment system. This is on a crop-by-crop basis, rather than the single sample basis of Articles 6.7/6.8. It gives the right to access all material of that crop in the Multilateral System, and requires immediate and *mandatory* payment for all commercialized products of that crop, whether or not they incorporate SMTA material, and whether or not they are under restriction for further research, training and breeding.
41. Mandatory payments, in accordance with Articles 6.7/6.8, are due only in the case of products commercialized under conditions that restrict access. These appear to include patent protection, technological protection (GURTs), and contractual conditions that deny the purchaser the right to freely use the material for further research and breeding. In reality,

⁸ Article 11.3. In accordance with Treaty Article 11.4, a review by the Governing Body of the progress in including these materials in the Multilateral System is pending.

⁹ The *Association pour l'Etude et l'Amélioration du Maïs*, (PRO-MAÏS), a private maize-breeders' association for maize study and improvement in France, and the *Association Française des Semences de céréales à paille et autres espèces Autogames* (AFSA), both with the National Institute for Agricultural Research of France (INRA).

maize is the significant crop commercialized under patents, such that mandatory payments are required. For maize, there are therefore positive advantages in avoiding material under SMTAs, because any patented products into which it is has been crossed will be subject to mandatory payment, and indications from industry suggest that many companies are in fact avoiding accessing maize under an SMTA.

42. A simple games theory analysis (fig. 4) identifies the problems with reliance on voluntary payments, in particular the lose–lose scenario where no commercial entity can afford to make the first payment, which would impact upon its competitiveness, and result in there not being a level playing field.

		Company 2	
		cooperates	defects
Company 1	cooperates	0,0	-,+
	defects	+,-	0,0

If one company makes a voluntary payment (cooperates), and the other does not (defects), the company that defects has a strategic advantage over the company that cooperates. This advantage can:

- be taken as increased profit,
- provide an research and development advantage, or
- be used to lower the sales price of a competitor product.

The advantage is always to the company that defects, and represents a substantial part of profits.

Profit in plant breeding is low. If we assume a profit range of 4% to 6%, 0.77% of sales equals 19.25% to 12.83% of profits.

No company can therefore make the first move and cooperate, because of the risk that other companies defect.

Fig. 4: Games theory and voluntary payment — a lose-lose scenario¹⁰

43. Indications provided by industry, during the preparation of *Potential*, confirm this analysis, and suggests that no voluntary payments can be expected, because this creates a substantial market disadvantage for the company paying them, and uneven competition with non-payers.
44. The extreme importance of mandatory payments for maize, for the Benefit-sharing Fund — assuming that SMTA material is not avoided — is clear from the fig. 5, which projects possible build-up of income over time, if no voluntary payments are, in fact, made.¹¹
45. If substantial avoidance is also assumed, then practically no income can be expected. The twin problems of avoidance and non-payment of voluntary payments are therefore amongst the most important factors that innovative measures must focus on, in order to promote a level playing field for commercial breeding, and to address the phenomenon that in similar contexts has been described as “free riding”.
46. The voluntary nature of payments under Article 6.8 indirectly creates an obstacle to achieving early income to the Benefit-sharing Fund through up-front payments under Article

¹⁰ *Potential*, p. 144, box 3.1.

¹¹ *Potential*, p. 145, figure 3.17

6.11, because the possibility of avoiding voluntary payment under SMTA Articles 6.7/6.8 contributes to making the Article 6.11 option less attractive to recipients, because, under that option, payment is mandatory for all products.

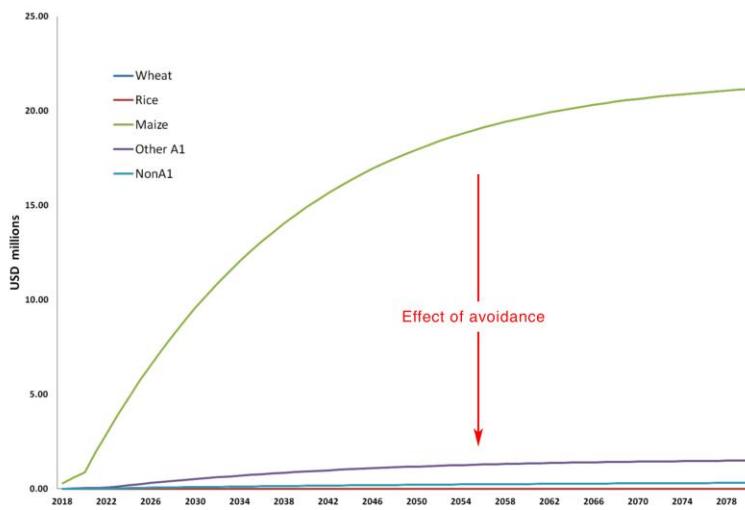


Fig. 5: Income by crop and crop group at 0% voluntary payment

The imbalance of payment rates between options

47. The *Ad Hoc* Advisory Committee noted that, from the days of the negotiation of the SMTA on, a number of Contracting Parties had found considerable merit in the concepts behind the alternative payment option in SMTA Article 6.11, in particular, the simplification of transactions for both breeders and the Treaty. Moreover, since this option involves the immediate payment of an annual “subscription fee”, based on a company’s annual sales, it has the capacity to generate rapid income to the Treaty. However, there has so far been no single valid SMTA reported that subscribes to the 6.11 payment option. All SMTAs already concluded therefore fall under the payment terms of SMTA Articles 6.7/6.8. Commercial users clearly do not perceive an advantage in the Article 6.11 option. The reasons are difficult to untangle, because a number of factors are at play, as fig. 6 shows.

Factor	Articles 6.7/6.8	Article 6.11
Access	To individual materials, under SMTAs	To all material of a single crop, under SMTAs
Basis for payment	Products descending from the individual material received	All commercialized products of that crop, whether or not descended from SMTA material
Rate of payment	1.1% of gross annual sales, less 30% = 0.77%	Discounted rate of 0.5% of annual gross sales
Nature of payment	<ul style="list-style-type: none"> Mandatory, when not available for further breeding (<i>i.e.</i>, patents) Voluntary, when available (<i>i.e.</i>, plant variety protection and sale without intellectual property) 	Mandatory, whether or not available for further breeding (<i>i.e.</i> , patents, plant variety protection, and sale without intellectual property)
Payment schedule	Annual, from date of first to last commercialization	Annual, and immediate, for all commercialized products
Period of agreement	Perpetual	Successive ten year periods. If revoked, Articles 6.7/6.8 apply, except that the payment rate under Article 6.7 is 0.5%
Transaction costs	Record-keeping for all crosses, to trigger payment on commercialization	Record-keeping for all crosses, to identify materials to which Articles 6.7/6.8 will apply on revocation

Fig. 6: Main factors currently distinguishing the options under SMTA Articles 6.7/6.8 and 6.11

48. Individual companies have very different breeding strategies and portfolios, and thus differing needs for material, as well as differing intellectual property strategies. For many companies, the requirement for mandatory payment for all products is a strong disincentive, because they cannot avoid payment for materials falling under Article 6.8. This creates a first imbalance in the costs between the Articles 6.7/6.8 and 6.11 options, and is a strong disincentive to accepting the Article 6.11 option.
49. Even if this is not considered, the ratio of Article 6.11 to Article 6.7/6.8 levels of payment (0.5% to 0.7%) is perceived as not compensating for the fact that Article 6.11 (1) applies to all products, whether or not they descend from SMTA materials, and (2) requires immediate payments, instead of payments during a product's commercial life only. Under current arrangements, there is no substantial difference in transaction costs, because of the need to know to what materials Article 6.7/6.8 conditions will apply, if an Article 6.11 agreement is revoked.
50. If the packet of access and benefit-sharing options that the Governing Body establishes, as an outcome to the present exercise, includes alternative access and payment provisions, then a balance between incentives and disincentives in the options — primarily in the relationship of the levels of payment of the options — will need to be carefully established, on the basis of sound data, or the options will be subject to the action of a form of Gresham's Law, where bad options drive out good options. Moreover, in strictly analytical terms, recipients are always likely to choose the option that cost them less, which will result in lower potential income for the Benefit-sharing Fund, unless this is compensated by more persons using SMTA materials.

Transaction costs for receivers

51. The SMTA, as a private contract, binds only the parties to the contract, that is, the provider and the recipient. For this reason, a chain of SMTAs must be concluded, as material passes from one recipient to a subsequent recipient, in order to create the beneficial interest of the Treaty, and provide legal grounds on which the Third Party Beneficiary can act, if necessary, to enforce its rights. The SMTA therefore requires that every transfer to a subsequent recipient be under a further SMTA.
52. The fact that the SMTA is a standard, unmodifiable contract has removed many transaction costs — particularly legal costs — that would otherwise have arisen from the need to negotiate contracts between provider and recipient on a case-by-case basis, and this is recognised by the industry. However, breeders feel that the need to keep records of all crosses that they make with any material received under an SMTA, and its descendants — in order to comply with the obligation to use an SMTA when transferring materials under development derived from SMTA material to a subsequent recipient (SMTA Article 6.5), and to fulfil their benefit-sharing obligations on the commercialization of any product that incorporates SMTA material or any of its genetic parts or components¹² — is onerous, and results in heavy transaction costs. The fact that the SMTA has no possibility of revocation, and no *de minimis* clause, means that these transaction costs are in perpetuity, if any descendants of material received under an SMTA is held.
53. Innovative measures that decrease these transaction costs are likely to increase use of the Multilateral System.

¹² SMTA Article 2, "Product".

IV. KEY STRUCTURAL FACTORS TO BE TAKEN INTO ACCOUNT IN DEVELOPING INNOVATIVE APPROACHES

Addressing the problem of voluntary payments

54. Particular existing provisions of the Treaty are crucial in considering how the voluntary payments foreseen in the SMTA (SMTA Article 6.8) might be made mandatory. The Treaty requires certain payments to be made on a voluntary basis: Article 13.2d(ii) provides that:
- the standard Material Transfer Agreement ... shall include a requirement that a recipient who commercializes a product that ... incorporates material accessed from the Multilateral System, shall pay ... an equitable share of the benefits arising from the commercialization of that product, except whenever such a product is available without restriction to others for further research and breeding, in which case the recipient who commercializes shall be encouraged to make such payment.*
55. However, the Treaty also provides, in the same Article, that:
- The Governing Body may assess, within a period of five years from the entry into force of this Treaty, whether the mandatory payment requirement in the MTA shall apply also in cases where such commercialized products are available without restriction to others for further research and breeding.*
56. This provision of the Treaty provides an in-built agenda for review of user-based benefit-sharing under the System, including a possible enhancement, without any need to amend the Treaty, which can make possible the innovative approaches under discussion. The Governing Body has repeatedly postponed this assessment. Once such an assessment is made, if a decision on that occasion is not to turn payments that are currently voluntary payments into mandatory payments, a later change from voluntary to mandatory would require a formal amendment of the Treaty. Existing, already identified innovative approaches contain elements which foresee such changes, as described in Section V below. The Governing Body may therefore wish to approach this assessment within the context of the current consideration of the packet of innovative approaches.

Addressing the problem of the avoidance of material under SMTAs

57. The larger the set of materials available under SMTAs, the higher the opportunity costs for a breeder of avoiding use of materials from the Treaty. The strategic collections that the CGIAR Centres have brought under the Treaty already constitute a significantly large set of material, as, sooner or later, breeders are likely to require access to these resources, directly, or by using another breeder's resources that have incorporated SMTA material.¹³
58. Increasing the real availability of materials from Contracting Parties will strengthen the attractiveness of the Treaty to users, as would the extension of the Treaty's crop coverage.
59. The inputs made by seed industry representatives directly participating in the Treaty Committees, and their inputs during informal consultations with Committee Co-chairs over the past biennia, have shown the importance for the industry of improved legal certainty, both in terms of the provisions of the SMTA, and for access and use of materials under the Treaty, in the evolving national and international regulatory frameworks. Improving legal certainty will help address the problem of avoidance.
60. Agreements with bodies representing sectors of the seed industry, which embody innovative approaches to income generation, like those discussed in the last biennium between the

¹³ The CGIAR Centres are also releasing, under SMTAs, the products of research and breeding with materials they hold in accordance with the Treaty, and these are particularly important to breeders, and likely to generate greater income, available sooner, than unimproved materials. *Potential*, pp. 24 and 130.

Committee and the Vegetable Industry Working Group¹⁴, offer another tool for addressing this problem, in that such initiatives can promote agreed industry-wide practices, and set standards and bind companies that wish to be members of such agreements, as an obligation that they accept in their membership agreements, in ways that foresee direct financial contributions to the Benefit-sharing Fund. Once again, the larger the coverage and membership of such initiatives, the higher the opportunity cost — and therefore the disincentive — to breeders for staying out of them.

Variation of the levels of payment, and different categories of recipient

61. Treaty Article 13.2d(ii) specifically provides that:

The Governing Body may, from time to time, review the levels of payment with a view to achieving fair and equitable sharing of benefits; and that

The Governing Body may decide to establish different levels of payment for various categories of recipients.

62. These factors may therefore be varied by a simple decision of the Governing Body, and incorporated in the SMTA.
63. Currently, the SMTA distinguishes between payment obligations and levels of payment only in terms of whether or not products are freely available to others for research and breeding.
- If they are not freely available (and this has so far been interpreted as meaning that they are commercialized under patent protection), payment is mandatory, and a specific rate is set (0.77% of gross sales);
 - If they are freely available (and both products marketed under plant variety protection, as well as those commercialized without any form of intellectual property protection, have so far been interpreted as being freely available), no rate is specified, and payment is voluntary.
64. In considering the variation of the levels of payment, the Governing Body may therefore need both to specify — the *types* of commercialization (*i.e.*, under patents, plant variety protection, or commercialization without intellectual property), with *different levels of payment* for each.¹⁵
65. If agreement is reached to make voluntary payments under Articles 6.7/6.8 mandatory, then this will go some way to addressing the present imbalance between Articles 6.7/6.8 and 6.11, as well as the problem of no voluntary payments being made.

Transaction costs

66. The reduction of providers' and recipients' reporting and record-keeping obligations can be approached pragmatically, by looking at the reason for these obligations. They serve specific purposes:
- a. To allow a recipient to know and fulfil his legal obligations to:
 - i. Make payments for specific products as they come due, and
 - ii. Employ an SMTA in transferring materials to a subsequent recipient; and

¹⁴ Document IT/GB-5/13/Inf. 4 Add.1 provides further information on the discussions held last biennium with the Vegetable Industry Working Group.

¹⁵ If the Governing Body wished to, it might set the level of payment for commercialization without intellectual property to 0%.

- b. To ensure legal certainty by providing evidence of the existence of the chain of SMTAs, for the Third Party Beneficiary to rely upon, in the context of a possible dispute settlement.
- 67. It would seem difficult to avoid such transaction costs, in the case of Articles 6.7/6.8, but it is possible to envision changes to the provisions of SMTA Article 6.11 that could reduce these transaction costs, or entirely do away with them, while still achieving these objectives.
- 68. This could be done by a simple decision of the Governing Body, and incorporated in the SMTA.

Innovative approaches that do not rely on specific provisions of the Treaty

- 69. Some possible innovative approaches that have been identified involve benefit-sharing provisions that do not derive directly from access to individual samples of a material, under an SMTA, for which there are no provisions in the Treaty; an example is the seed trade Licensing Platform that has already contributed to the Benefit-sharing Fund; the *Ad Hoc* Advisory Committee discussed directly with the Vegetable Industry Working Group and other stakeholders a larger similar platform, membership of which would entail an obligation to make payments to the Benefit-sharing Fund, when certain technologies are licensed from a “protected commons” patent pool established by the members.
- 70. The increasing “dematerialization”¹⁶ of plant breeding, and the use of plant genetic resources for food and agriculture generally, are a result of rapid technical changes in the seed sector, since the negotiation of the Treaty. The rights that form the basis of seed breeding have increasingly moved away from physical ownership of, and access to, plant genetic resources, towards intellectual property over non-material knowledge, at trait or gene level. Licensing Platforms, if they include an obligation to make contributions to the Treaty in certain circumstances, offer a way to adapt the Treaty’s benefit-sharing provisions to these technical advances.
- 71. The Working Group may wish to request its Co-chairs to continue discussions with relevant user entities, and where there appears to be an opportunity to agree on suitable provisions, to consider how such innovative approaches might be linked to the Treaty, and how the industry groups involved could be brought into a formal relationship with the Treaty.
- 72. Other key questions are the use or otherwise of SMTAs, in such circumstances, and whether agreements could be reached with such platforms that vary the nature and level of payment obligations, so as to generate some, or all of the financial contributions foreseen from licensing.

The availability of material, and Annex 1 to the Treaty

- 73. The possible expansion of the coverage of the Treaty to all plant genetic resources for food and agriculture is one of the innovative approaches identified by the *Ad Hoc* Advisory Committee. The Governing Body has agreed that the Working Group will consider such additional measures to enhance the functioning of the Multilateral System, after increased

¹⁶ IT/GB-5/13/Report, Appendix I.2, *Report of the Secretary*:

“...the increasing trend for the information and knowledge content of genetic material to be extracted, processed and exchanged in its own right, detached from the physical exchange of the plant genetic material: value is increasingly created at the level of the processing and use of such information and knowledge. The rise of modern breeding technologies and plant genomics, for example, has shifted the balance of value of material and knowledge. This raises a complex set of questions for the Treaty [...] Let me give some examples. How can you govern the ‘products’ of the use of plant genetic resources for food and agriculture (PGRFA) that are intangibles?”

user-based payments and contributions have been considered. A number of technical considerations arise.

74. The Treaty provides that “*the Multilateral System shall cover the plant genetic resources for food and agriculture listed in Annex I*” (Article 11.1). To achieve the extension of the coverage of the Treaty by a formal extension of *Annex I* would therefore require an amendment to the Treaty, in accordance with Articles 23 and 24, and would only come into force 90 days after ratification, acceptance or approval by two-thirds of the Contracting Parties.
75. The SMTA, on the other hand, is adopted by the Governing Body, and, providing it incorporates the relevant provisions of the Treaty (Article 12.4), may be modified by the Governing Body, without amendment to the Treaty itself.
76. The SMTA is already being used by a number of Contracting Parties to provide non-*Annex I* genetic resources to recipients, and thereby create a beneficial lien in favour of the Benefit-sharing Fund, requiring the payment of benefits identical to those due on the commercialization of products incorporating *Annex I* materials. The Governing Body has also authorized the CGIAR Centres to use the SMTA for their non-*Annex I* materials.
77. The Governing Body might therefore wish to consider arrangements that do not seek the extension of coverage by amendment to the Treaty, but bring other resources under the terms of an SMTA, revised as necessary. The exact legal procedures by which this may be done could be elaborated through further study.

The “toolbox” for the further development of user-based innovative approaches

78. In summary, the “toolbox” of structural factors that the Working Group may wish to consider, in further developing the user-based innovative approaches already identified, and in identifying other innovative approaches, includes:
 - a. Making voluntary payments mandatory, in SMTA Articles 6.7/6.8, in the context of the assessment foreseen in Treaty Article 13.2d(ii);
 - b. Varying the level of payment for different categories of users, in accordance with the conditions under which their products are commercialized;
 - c. Balancing levels of payments, across the different options, in recognition of the technical interdependence of SMTA Article 6.7/6.8 and 6.11;
 - d. Identifying incentives and disincentives to discourage avoidance of materials under an SMTA;
 - e. Structuring individual innovative approaches, where possible, in ways that reduce or entirely do away with the need for reporting and record-keeping, and provide increased legal certainty to users;
 - f. Structuring innovative approaches, in discussion with the industry, which generate benefit-sharing that does not derive directly from access to individual samples of a material, under an SMTA, but from the growing trend towards “dematerialization” in the use of plant genetic resources for food and agriculture;
 - g. Extending the Treaty’s coverage of plant genetic resources for food and agriculture, in an institutionally simple and effective way.

V. THE INNOVATIVE APPROACHES ALREADY IDENTIFIED, AND THEIR RELATIONSHIP WITH THE KEY STRUCTURAL FACTORS IDENTIFIED

79. The *Ad Hoc* Advisory Committee on the Funding Strategy identified the following innovative approaches:

- 1. Revisiting Article 6.11 of the SMTA.*
- 2. Revisiting Article 6.7 of the SMTA.*
- 3. Promoting regular seed sales-based contributions by Contracting Parties*
- 4. Expanding the coverage of the Multilateral System.*
- 5. Novel ways to attract use-based voluntary funding.*
- 6. Upfront payments on access, to be discounted against payments due on the commercialization of a product.*

The Committee concluded that the various innovative approaches are technically interlinked and interdependent, and need to be addressed together. It also concluded that different innovative approaches could each provide a part of an adequate and sustainable flow of income to the Benefit-sharing Fund, and the objective should therefore be to stack approaches, within a single package.¹⁷

80. The *Ad Hoc* Advisory Committee developed these approaches in a number of sessions, during which regions put forward the specific proposals that have now been incorporated in the innovative approaches that the Working Group will be developing further in this biennium, and which provide the basis for its work.
81. The African Region presented a paper, comparing the workings of SMTA Articles 6.7/6.8 and 6.11, and identifying the advantages that it believed would flow from improving the operations of Article 6.11.¹⁸ The Near East Region proposed a “flexible benefit-sharing approach, predicted by the Treaty”, which involves revisiting SMTA Article 6.7, specifically in order to make voluntary payments mandatory, with different levels of payment for different restrictions for multiplication, or research and breeding.¹⁹ Moreover, the Committee and its Co-Chairs conducted both formal and informal dialogue with the Vegetable Industry Working Group and other stakeholders, regarding a proposed Industry Licensing Platform that could make provision for a payment to the Treaty on the licensing of a patent from the platform’s “protected commons patent pool”.²⁰
82. In its Second Resumed Session, the *Ad Hoc* Committee reviewed the various innovative approaches that had so far been identified, and made observations on each. These observations have been excerpted, and are available to the Working Group in document IT/OWG-EFMLS-1/14/4.
83. In this section, further information is provided as to how the six innovative approaches relate to the key structural factors discussed above.

¹⁷ IT/GB-5/13/7, *Report on the implementation of the Funding Strategy*, paragraphs 16 and 17; http://www.planttreaty.org/sites/default/files/gb5w7e_GB-5-13-7%20Report%20on%20the%20Funding%20Strategy.pdf,

¹⁸ IT/GB-5/13/Inf. 4 Add.1, *Appendix 2*.

¹⁹ IT/GB-5/13/Inf. 4 Add.1, *Appendix 4*.

²⁰ IT/GB-5/13/Inf. 4 Add.1, *Appendix 3*.

SMTA-based approaches

Revisiting Articles 6.7/6.8 and 6.11

84. In revisiting these articles, the key factors which the Working Group may need to consider appear to be:
- Whether payment obligations are mandatory or voluntary, and to which products these apply;
 - The relative levels of payment in Articles 6.7/6.8 and 6.11, including the possibility of varying the levels of payments for different categories of product, according to the intellectual property regimes under which they are commercialized;
 - Ways in which transaction costs could be reduced, in particular, the possibility of reducing or doing away with record-keeping for payment obligations, and the need to issue and report SMTAs for transfers.
85. As fig. 4 and 5 show, the fact that mandatory payments at present apply almost only to maize commercialized under patents, coupled with the non-payment of voluntary obligations for other crops, deprives the Benefit-sharing Fund of income, when the 6.7/6.8 option is chosen, creates mistrust, encourages free-riding, and is a strong disincentive to choosing the Article 6.11 option. If the Working Group decides to recommend to the Governing Body that all categories of product attract mandatory payment, then this may be effected by a revision of the SMTA, which can be adopted by the Governing Body, without requiring a revision of the Treaty. Different variations of this option have been proposed in the already identified approaches, such as the ‘flexible benefit-sharing approach’, and other possible amendments discussed for Article 6.7/6.8. The Governing Body might then “*from time to time, review the levels of payment with a view to achieving fair and equitable sharing of benefits*”.²¹
86. Since Articles 6.7/6.8 and 6.11 are logically and operationally inter-dependent, the key technical question is how to coordinate the relationship of the payment levels under the two payment options, so as to:
- begin from a parity of opportunity cost for users, in deciding for one option or another, and prevent one option driving out the other, as happens at present; and then to
 - implement the policy objectives that the Governing Body may wish to establish, for example, to promote one or other of the options, or to seek a more rapid generation of funds, by modifying the parity rate.
87. If the Governing Body decides to vary the levels of payment under Articles 6.7/6.8 to differentiate between different categories of product, in terms of whether they are commercialized (1) under patents, GURTs or restrictive licensing, (2) plant variety protection, or (3) without restriction for further research and breeding, it would appear logical to similarly differentiate the payment levels under Article 6.11 as well, in a parallel manner, though not at the same absolute levels.
88. Because the two payment options are technically interlinked and interdependent, then the relative levels of payment between the two options will need to be set in such a way that the option that will provide the least income to the Treaty does not drive out the option which would provide more income: in theoretical terms, a perfect balance of rates between options might be described as a “parity of opportunity cost to users, in deciding for one option or another”.
89. The Governing Body may also, in establishing the levels of payment under the two options, consider modifying the parity levels, so as to create an incentive or a disincentive for a specific option, on policy grounds, and because of the potential income to the Benefit-sharing Fund.

²¹ Treaty Article 13.2d(ii).

90. The Working Group may wish to first consider the technical question of the *relative* levels of payment between the two options, before considering the *absolute* levels of payment, which will define the probable income to the Benefit-sharing Fund, including because the question of the possible extension of the Treaty's crop coverage — which is a major factor in defining the probable income — is scheduled to be considered at a second stage.
91. As identified in the previous section, the reporting and record-keeping transaction costs, which constitute the bulk of the transaction costs, respond to two separate objectives:
- Record-keeping of crossing is currently necessary, in order for a recipient to know for which materials a payment is due, on commercialization of a product; and for the issuance of SMTAs to establish the chain of SMTAs; and
 - Reporting on SMTAs issued is necessary, to enable the Third Party Beneficiary to initiate dispute resolution, if required.
92. Articles 6.7/6.8 and 6.11 differ fundamentally in terms of the scope of access: (1) single samples, under Article 6.7/6.8; and (2) all of a crop, under Article 6.11. This is correlated with the scope of payment. Because Article 6.7/6.8 relates to individual samples, it is difficult to see how these transaction costs could be reduced.
93. In considering how to reduce transaction costs under Article 6.11, the key structural question is whether a recipient maintains two separate sets of materials, one received under an SMTA and its descendence, and another of materials and their descendence that are not obligated to the Treaty. If two such sets are not maintained:
- It is not logically necessary to keep records to identify products for which payment is due, because *all* products occur payment.
 - It is not logically necessary, for the same reason, to use SMTAs for transfers between subscribers to Article 6.11.
 - For the Third Party Beneficiary, the only information necessary would be the amount of the annual sales of the product of the crop or crops by a subscriber, and the amount they pay.

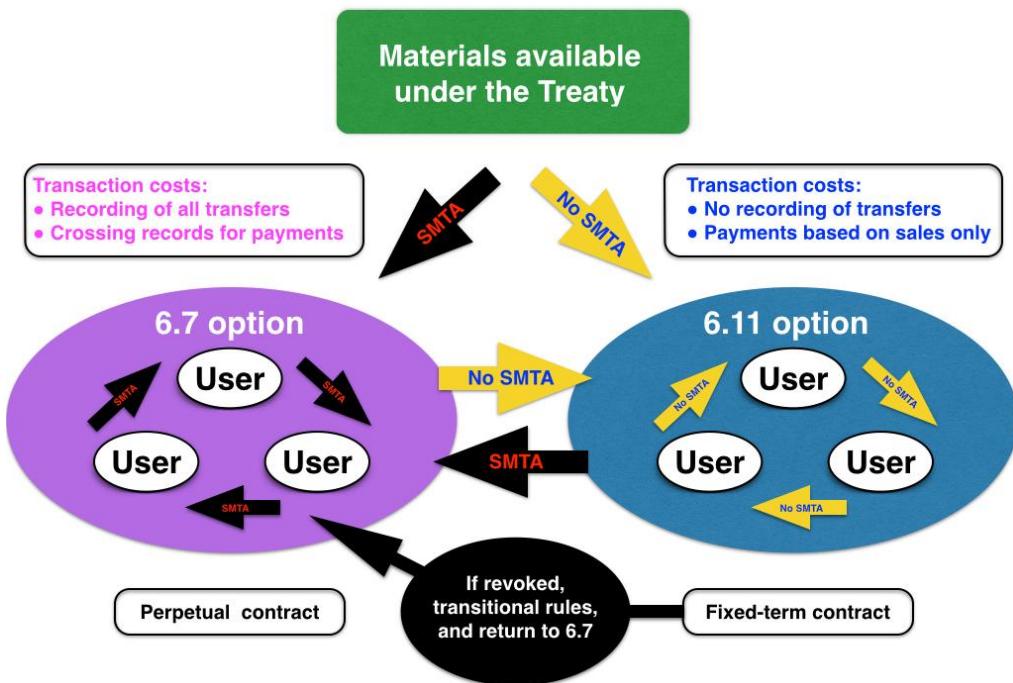


Fig. 7. The possible reduction of transaction costs under Articles 6.7/6.8 and 6.11

94. Simplifying transaction costs in this way would also be the basis of a number of benign structural developments. It would create an incentive to use the Article 6.11 option, with the potential to create earlier and more predictable income for the Benefit-sharing Fund than the Article 6.7/6.8 option. It could function as a “subscription club,” for individual crop portfolios or the entire system, in the context of which subscribers can exchange materials among themselves in a streamlined way.
95. Therefore, if a subscriber to Article 6.11 is bound so that all his materials are obligated to the Treaty,²² then the only transaction costs necessary to achieve these two objectives would appear to be as in fig. 7:²³
- a. The initial agreement, opting for Article 6.11 terms;
 - b. The issue of an SMTA to a recipient who is *not* also a subscriber to an Article 6.11 agreement, to create the first in a chain of SMTAs under Articles 6.7/6.8;
 - c. The use of SMTAs for transfers of materials to subsequent recipients, if the 6.11 agreement is revoked, at least for a period of transition.
96. Article 6.11, if structured in this way, would reduce transaction costs for both subscribers and the Treaty secretariat, provide greater legal certainty, and be more attractive to breeders. Since payment is immediate, it could help overcome the slow build-up of income that would result from even improved Articles 6.7/6.8. The management costs for the Treaty and its Secretariat might be reduced.

Upfront payments on access, to be discounted against payments due on the commercialization of a product

97. This innovative approach would apply to Articles 6.7/6.8, and its objective is to shorten the time between accessing a material under an SMTA and receipt of income for the Benefit-sharing Fund. It would trade a reduction in overall income to the Benefit-sharing Fund against earlier income. It would provide recipients with an option to make a payment on receipt of a material, and in exchange pay at a reduced rate when a product is commercialized.
98. There are a number of ways in which such an approach could be operationalized, but many technicalities would need to be addressed. Factors that might be taken into account might include:
- Whether upfront payments would be counted against *individual* products derived from *individual* materials, or whether they might be counted against *any* product, for which payment to the Benefit-sharing Fund is due;²⁴
 - Whether discount rates should vary over time, and on what basis;
 - What discount rates would, in practice, attract commercial users; and
 - Whether the possible speeding-up revenue to the Benefit-sharing Fund would be worth the added transaction costs, for the Treaty, of accounting for upfront payments, and the lower overall income.

²² It would appear that the only logical reason for which a subscriber might wish to maintain records for two separate sets of materials is to be able to segregate SMTA-descended materials from other materials on revocation of the 6.11 agreement.

²³ This description of the workings of Article 6.11 appears to coincide with the description in the *African proposal: a source of funding within the existing framework and articles of the International Treaty, appropriate for the present economic situation and for the urgency of global food and climate change demands*; see http://www.planttreaty.org/sites/default/files/gb5i4ea1_Resumed_ACFS7_RES1.pdf, Appendix 2, the figure in paragraph 27.

²⁴ It must be borne in mind that many materials will not be incorporated in commercialized products.

Non-SMTA-based approaches

Promoting regular seed sales-based contributions by Contracting Parties

99. The *Ad Hoc* Advisory Committee considered this approach on the basis of the Norwegian decision to make an annual contribution 0.1% of the value of all seed sales on its national territory (*Annex 1* and non-*Annex 1* crops), separately from the workings of the SMTA. Between 2009 and 2014, Norway contributed USD 648,178 through this initiative. At the time of announcing the decision, Norway estimated that, if all Developed Countries made similar contributions, a sum of about USD 200 million would flow to the BSF over ten years.²⁵
100. The Governing Body has appealed to other Contracting Parties to take similar decisions, and so provide the Benefit-sharing Fund with substantial and reliable income,²⁶ but to date no other country has done so.
101. In technical terms, such an approach could provide for user-based contributions *on a territorial basis*. A Contracting Party might then decide how to raise those funds, from users directly, or, as in Norway's case, from central resources. Territorial approaches could also provide a framework for innovative arrangements between the Treaty and user groups under the jurisdiction of individual Contracting Parties, for example, to promote non-monetary benefit-sharing, or to make coordinated contributions to the Treaty, and perhaps be recognized for doing so.
102. The Norwegian seed-sales based contributions are currently the *only* predictable income. The Governing Body, in considering innovative approaches, might therefore wish to clarify whether other Contracting Parties would be prepared to make regular seed sales-based contributions, and under what conditions, within a larger package of innovative benefit-sharing approaches, to provide sustained and predictable income to the Benefit-sharing Fund. It may also consider other approaches that might create predictability in the contributions that Contracting Parties, such as a periodic pledging conference, possibly at the time of the periodic establishment of the funding target. In this light, this concept could be considered more of the nature of a way of structuring contributions from Contracting Parties, than a user-based approach.

Novel ways to attract use-based voluntary funding

103. The only such innovative approach identified to date is the Industry Licencing Platform that the *Ad Hoc* Advisory Committee discussed directly with the Vegetable Industry Working Group and other stakeholders. These discussions had not been completed at the end of the last biennium, and are extensively covered in the reports of the *Ad Hoc* Advisory Committee.²⁷ A first task of the Working Group should therefore be to charge its Co-chairs to take up the discussions where they left off. It is understood that plans for the establishment of the Industry Licencing Platform have progressed considerably.
104. This innovative approach — that is, how a private industry initiative of this nature would contribute a form of benefit-sharing, as part of its membership agreement — is new and potentially an important source of income. This is a cutting-edge innovative approach, and, from initial discussions with the Vegetable Industry Working Group, appears to have considerable potential.
105. Such approaches, if the industry bodies involved agree, could provide a way in which the Governing Body could extend the governance of the system, and the scope of user-based

²⁵ [ftp://ftp.fao.org/ag/agp/planttreaty/news/noti005_en.pdf](http://ftp.fao.org/ag/agp/planttreaty/news/noti005_en.pdf).

²⁶ Resolution 4/2009.

²⁷ IT/OWG-EFMLS-1/14/4.

benefit-sharing, towards a downstream, pooled good, which is managed by end-users according to collectively agreed principles that facilitate access to proprietary materials. Such approaches could maintain intact the principle of different levels of payment between different levels of restriction over access, and could be combined with “subscription” models designed to reduce transaction costs for users.

106. There are, however, many practical and institutional questions that need to be addressed, and the approach can only be structured in continued direct consultations with the Vegetable Industry Working Group. Major questions to be addressed may include:

- How payments under this scheme would relate to any payments due under SMTA Articles 6.7/6.8 and 6.11;
- Whether payment obligations and levels, due under SMTA Articles 6.7/6.8 and 6.11, could be varied, in the context of an overall scheme that created a income stream from “dematerialized” property over plant genetic resources for food and agriculture; and
- Whether an agreement between the Vegetable Industry Working Group would be necessary, and what form this would take.

Expanding the coverage of the Multilateral System

107. The *Ad Hoc* Committee on the Funding Strategy reported to the Governing Body that:

Many stakeholders have expressed a desire for an urgent expansion of the coverage of the Multilateral System, to ensure that plant breeding has effective access to the wide range of plant genetic resources that it needs in order to develop high performing crops, to underwrite food security, and to face the growing challenge of climate change.

Stakeholders have also recognized that an expansion in the coverage of the Multilateral System could also expand the potential for benefit-sharing, and that the two questions are therefore intimately and reciprocally linked. The Committee recognized that the present Benefit-sharing Fund arrangements are not providing appropriate benefit-sharing and that any expansion of the Multilateral System shall only enhance benefit-sharing if changes to the current Benefit-sharing Fund arrangements can be agreed.²⁸

108. The Governing Body accordingly decided that the Working Group should sequentially address, first innovative approaches, and then additional measures to enhance the functioning of the Multilateral System, which includes possible expansion of the Treaty’s crop coverage.

109. The data assembled in *Potential* gives a picture of the relative values of the materials in *Annex 1* and the remaining plant genetic resources for food and agriculture. With the strong caveat that these figures are theoretical projections of a formal model, and should not be understood as predicting income with a degree of accuracy, it appears that extending the Treaty’s crop coverage to all plant genetic resources for food and agriculture increases the potential income for the Benefit-sharing Fund by 33%-40%, depending on the assumptions, as fig. 8 shows. It has a greater potential than expanding the membership of the Treaty to all countries. Such an increase of membership, itself, has the potential to increase potential income to the Treaty by about a third.²⁹

²⁸ IT/OWG-EFMLS-1/14/4, paragraphs 24 and 25.

²⁹ *Potential*, pp.139–139, and fig. 3.11.

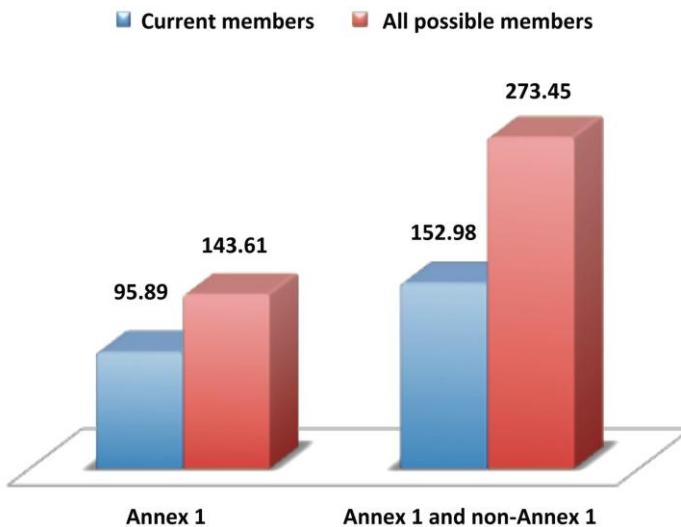


Fig. 8. Projected annual income at 2081 (USD million), modelling an increase in Treaty membership, and an increase in crop-coverage³⁰

110. Even if any final agreement regarding the expansion of the crop-coverage of the Treaty is taken in a second stage, it will therefore be necessary to understand the potential of such expansion for the Benefit-sharing Fund during the first stage, when improved benefit-sharing is considered. However, a clear understanding of the likely income will require more information than is currently available, and will need to allow for a large number of the factors that are under consideration in the different innovative approaches.

VI. CREATING AND EVALUATING A PACKET OF MEASURES TO INCREASE INCOME TO THE BENEFIT-SHARING FUND

111. Resolution 2/2013 emphasize[d] that the various innovative approaches are interlinked and interdependent, and need to be addressed together, as a range of different innovative approaches that could provide a part of an adequate and sustainable flow of income to the Benefit-sharing Fund.
112. Figure 9 shows the different components that could come together to provide an adequate income stream for the Benefit-sharing Fund. The Working Group may therefore wish, as a last stage in its work, to estimate the value of the various components, and identify the supporting actions that are required to make them work, for example, the immediate and effective availability of all Contracting Parties' relevant materials.
113. In the immediate future, it is unlikely that user-based income will be able to contribute significantly to *The Strategic Plan*, which means that Contracting Party voluntary contributions to the Benefit-sharing Fund will remain by far the largest element in the immediate future. By their nature, income from SMTA-based innovative approaches will depend on the willingness of commercial users to access material under the Treaty's systems, and, even if revisiting SMTA Articles 6.7/6.8 and 6.11 overcomes the problems of avoidance and the lack of voluntary payments, it is likely to be some time before it is possible to know and predict real income, with a degree of certainty. However, a revised Article 6.11 "subscription" option — because it foresees an immediate annual payment — will generate income much more rapidly than the Article 6.7/6.8 option, for which reason the Governing Body may wish to take a policy decision to promote it, through a balance of

³⁰ *Potential*, pp. 147–148. Note that, since the study was undertaken, Japan has joined the Treaty. Japan holds 5.45% of Contracting Parties's holdings of *Annex 1* materials, equal to 4.69% of world holdings; and 4.85% of Contracting Parties' holdings of *non-Annex 1* materials, equal to 4.32% of world holdings (IT/GB-5/13/5, *Appendix*).

incentive and disincentives. It would also be easier for the Governing Body to monitor the success or otherwise of such a subscription option.

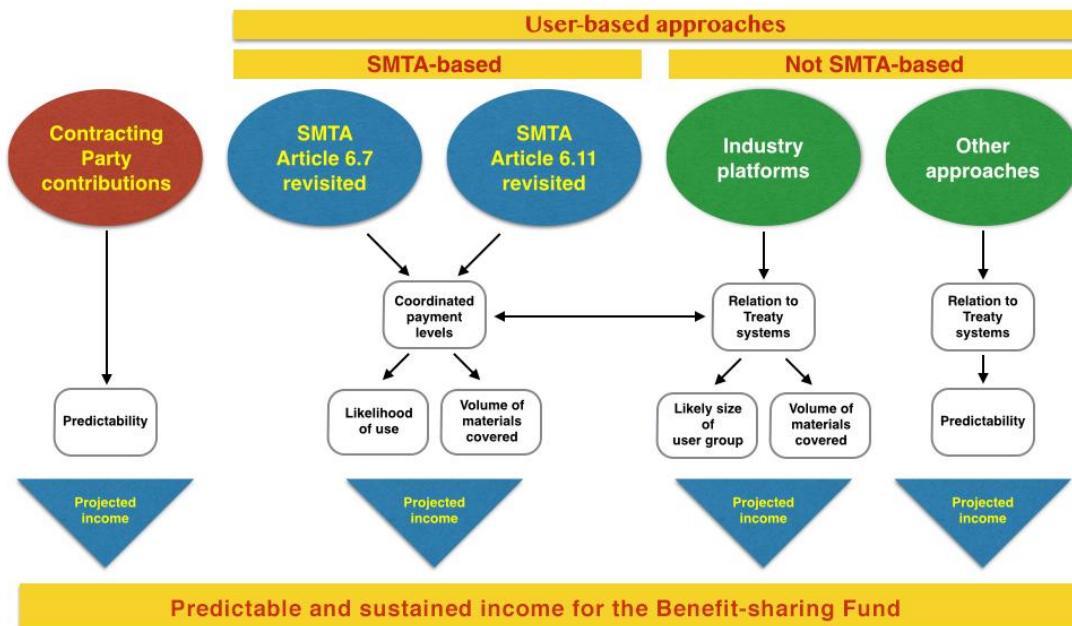


Fig. 9. Assembling a range of measures to provide an adequate and sustainable flow of income to the Benefit-sharing Fund

114. A large uncertainty, which the Working Group may wish to clarify during this biennium, is the real potential of working with representatives of the vegetable industry, in order to agree on procedures whereby the Treaty can obtain income from “dematerialized” value-chains in modern plant breeding. Structuring the relationship between such an innovative approach and the payment systems and levels of SMTA Articles 6.7/6.8 and 6.11 will probably be the biggest technical challenge. Representatives of the vegetable industry have also made clear that poor coverage of vegetables in *Annex 1* to the Treaty both limits the present potential income from this sector, and is a major motive for their seeking to balance increased access against innovative benefit-sharing agreements.

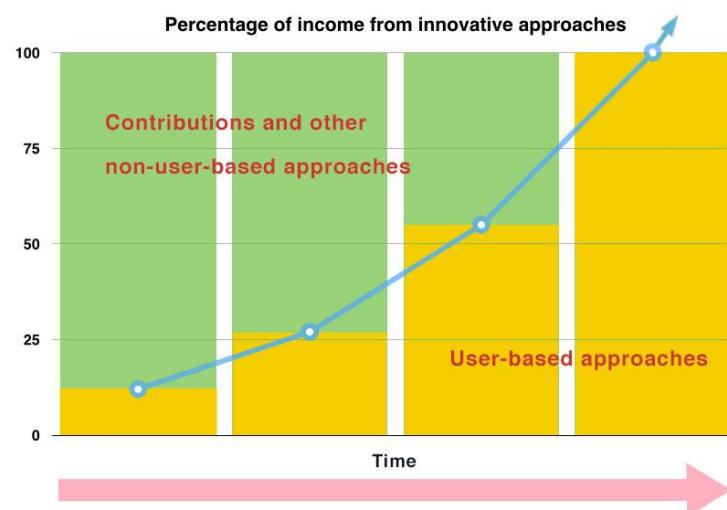


Fig. 10. The build-up of user-based income for the Benefit-sharing Fund

115. Fig. 10 provides a very schematic diagram of the way in which the part of user-based income can provide an ever increasing part of a sustainable and predictable flow of income to the Benefit-sharing Fund. The potential of user-based monetary benefit-sharing under the Treaty, on the basis of annual world sales of seed and planting material in the order of some USD 37 billion,³¹ is substantial, and the outcome of the current considerations can structure the Treaty's systems effectively.

Members	Availability	Annex I	Non-Annex I	USD million
Current	Current	Yes	No	28
Current	100%	Yes	No	60
All	100%	Yes	No	93
Current	100%	Yes	Yes	100
All	100%	Yes	Yes	176

Fig. 11. Projections by membership, and Annex I and non-Annex I material, at 2081³²

VII. MATTERS TO BE CONSIDERED BY THE WORKING GROUP IN THIS MEETING

116. The Governing Body, at its Third Session, welcomed *The Strategic Plan for the Implementation of the Funding Strategy, 2009–2014*. At its Sixth Session, the Governing Body will assess the implementation of the *Strategic Plan* in this period, and will consider and decide on measures to increase income to the Benefit-sharing Fund.
117. The analysis in this document suggests that, in the immediate future, the Benefit-sharing Fund will need to rely on a number of streams of income, which can each provide part of an adequate and sustainable flow of income, to meet the funding target. If innovative user-based approaches are adopted that start a real flow of income, the financial health of the Benefit-sharing Fund can be assured over time, in both the short term, in which user-based income begins to flow, and the longer term, when it plays the major role. In the immediate future, voluntary contributions, mainly from Contracting Parties will be needed, and all measures that can make them more predictable will be most valuable.
118. The Working Group may wish to first exchange views on the factors leading to the current short-fall of income to the Benefit-sharing Fund, and then on the innovative approaches already identified, and how these relate to the key structural factors identified in section IV of this document. The Working Group is invited to consider further possible innovative approaches. Members of the Working Group, or the Regional Groups, are invited to provide information regarding existing or new innovative approaches. The Working Group may wish to then invite comments from Observers, regarding their views on existing or new innovative approaches.
119. The Working Group may wish to then refine the concepts behind, in particular, the revisiting of SMTA Articles 6.7/6.8 and 6.11, including their technical inter-relationship. The Regional Groups may provide first indications regarding other measures that can enhance the Multilateral System, which may need to accompany changes in the SMTA, to increase monetary benefit-sharing.
120. It is not suggested that the Working Group consider levels of payment at this meeting, but that it set the parameters for more detailed deliberations at its subsequent meeting, and identify any specific information it would wish prepared for that meeting.

³¹ *Potential*, p. 264, tab. a.3.1.3.

³² *Potential*, p. 149, tab. 3.6.

121. The Working Group may wish to schedule discussion of the target for income generation for the 2015–2020 period, and the strategy to achieve it, through a mixture of income streams until its third meeting, when the full range of matters referred to it by the Governing Body has been considered, and make its recommendations to the Governing Body accordingly.
122. The Working Group may wish to request the Secretariat to further develop the measures needed to operationalize such a strategy, for consideration of the Working Group, at its next meeting.
123. As it is likely that there will be only two further meetings of the Working Group in the biennium, it is recommended that the Working Group identify and schedule all inputs it wishes at the two meetings, and define the target output from each. In doing so, the Working Group will want to bear in mind the decision of the Governing Body that improved benefit-sharing should be addressed before considering the expansion of the crop coverage of the Treaty.