



Conspicuous Cashew

**Inclusive Learning Material for
Secondary Level**

Original English Edition

Conspicuous Cashew – Inclusive Learning Material for Secondary Level, India

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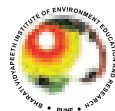
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Symbol | Abbreviations | Meaning

	WS	Worksheet
	CC	Cognition and Complexity
	VP	Vision and Perception
	D/HoH	Deaf and Hard-of-hearing
		Additional Task
	DVD	
	MB	Material Box
		Text file
		Picture/s
		Picture- or Text Cards
		Diagram
		Audio file
		Video file
		Map
		Material



Foreword

Cashew, A Global Learning Challenge – Inclusive Learning Material for Class 9 and 10 is a resource where we combine inclusive learning with ‘Education for Sustainable Development’ (ESD). At a first glance, this looks like a resource about Cashew! It is, however, a resource for learning through Cashew – botany, history, politics, cultivation, world trade, fair trade and climate. It is learning that is created in the intersection of the cashew and environment, social, economic, political and cultural aspects of the four countries of India, Germany, Mexico and South Africa, in a way that allows all learners – regardless of gender, religion, culture, language, disability and / or social and economic conditions to learn about global connections, to get involved in global questions, and thereby become active themselves.

Can something as ambitious as global relationships be explored through these intersections with such a small and extraordinary delicacy, as the cashew? We could. The four countries show different but special foci on cashew: India is one of the world’s biggest producer; Germany, a main consumer; Mexico hosts natural resource of cashew trees in its South, produces and imports due to an increasing demand; and South Africa is trying to jump on to the economic success story of cashew. These complex realities open up the chance to strengthen learners’ systemic competencies in the frame of ESD.

In India, the Right to Education Act 2009 ensures education to all children irrespective of their caste, class, gender, religion, ability, and so on. This stands as a testimony to build an inclusive society. Educational policies of the country are inclusive and initiatives like this add to realising it in spirit. In general, and in the context of inclusivity, education must be joyful and support ALL children in their learning endeavour. Content and methodology adopted by schools are crucial to achieve inclusivity. What is the way to focus on content and methodology? Bearing it in mind, this inclusive ESD material on Cashew has been designed.

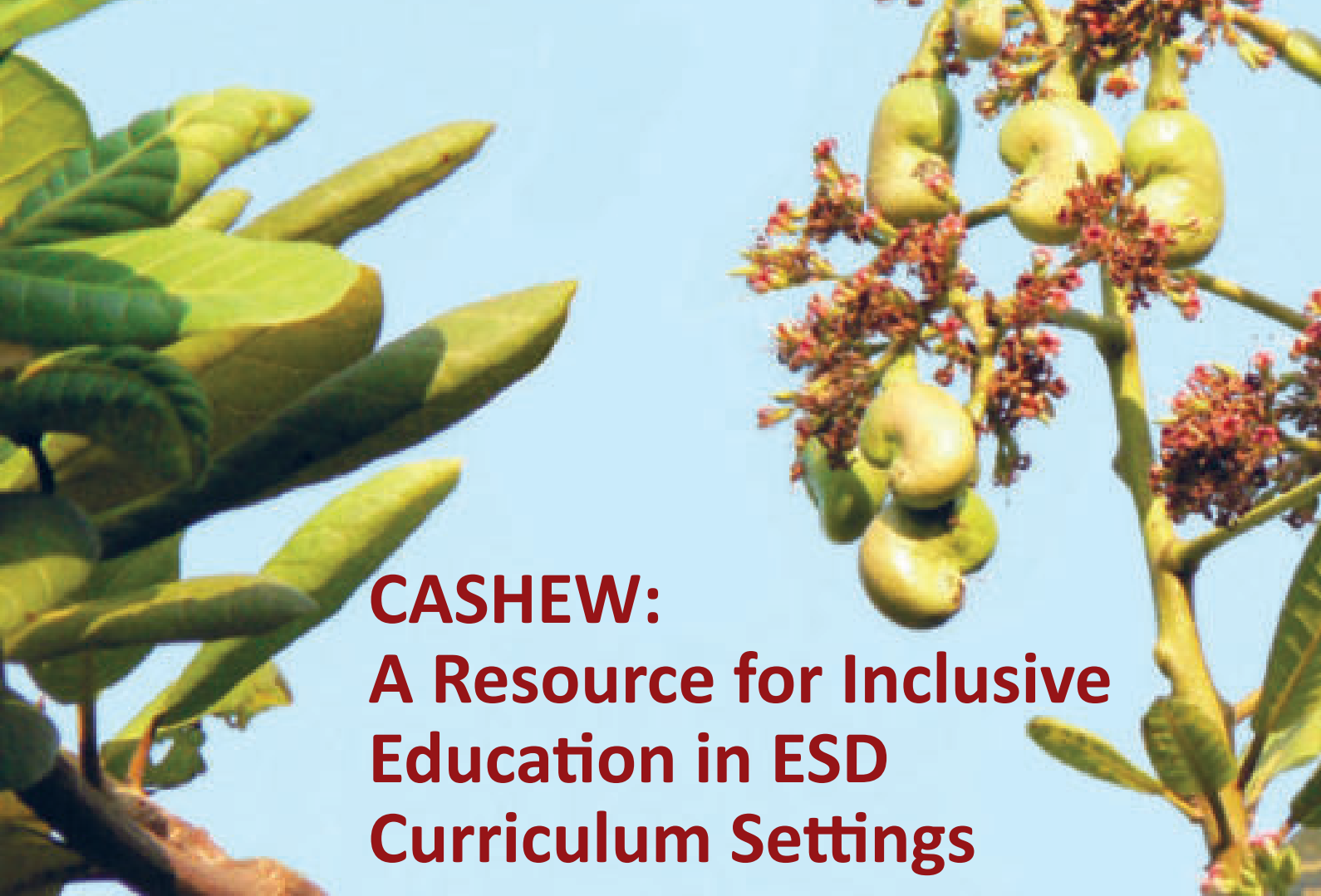
Firstly, the question that had to be answered by the project team was, “will learning with cashew interest and be welcoming to the students?” Cashew being a familiar kernel across the country, and particularly in Goa, generated a confidence that it will evoke interest in the young learner. Second aspect that mattered was if learning would result in a sense of achievement. Cashew it’s morphology, ecology, socio-economic and cultural aspects do not figure prominently in the curriculum. Learning about cashew could provide the scope to develop a sense of pride among children.

For the project team, as ESD practitioners, it mattered if environmental, social, economical and cultural aspects could generate enough awe and curiosity in the teachers as well as learners. Being a four-country intercultural learning material, content that could attract young learners is presented here. Learning about Cashew and learning through it provides a flexibility, both in terms of methods, activities and teaching-learning materials. And with inclusivity on the top of the mind, the content and activities, we hope would meet the needs of all children, particularly those who face barriers to learning.

The ESD Expert Net and bezev are very thankful to the authors who contributed to this important project on inclusive Education for Sustainable Development. Our sincere appreciation to the following peers: Melanie Bartz, Dr. Erach Bharucha, Rajeswari N. Gorana, Sujeet Kumar Dongre, Stefy Gracias, Dr. Thomas Hoffmann, Anja Kaschek, Norma A. Martins, Katharina Merz, Benedicta Miranda, Katarina Roncevic, Valentyna Stokoz, Shivam Trivedi, Dr. C. J. Vlachos, Kim Ward, Ulrike Westerbarkey und Christine Westermeier.

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CASHEW: A Resource for Inclusive Education in ESD Curriculum Settings

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“Everyone has a Right to Education”, asserts universal declaration of Human rights 1948. All children have the same rights, regardless of gender, religion, disability, socio-economic backgrounds or skin color etc. Education is important because, *“there is no freedom without choice, and there is no choice without knowledge”* (Cardozo 2000:104). This explains why education is a fundamental right. The importance of education and learning are much recognized in the discourses of human development; and environment and development.

In India, the Right to Education Act 2009 ensures education to all children irrespective of their caste, class, gender, religion, ability, and so on. This stands as a testimony to build an inclusive society. Educational policies of the country are inclusive in letter but have a long way to go in spirit to achieve inclusivity.

Coming to Environmental Education (EE), the Supreme Court, in 1991 ruled that EE should be compulsory in the formal education system and thus has been integrated in accordance and provides a basis for Education for Sustainable Development (ESD). The National Curriculum Framework (NCF) 2005 embodies the integration and values-based orientation for ESD. While these measures have helped in integrating EE to a great extent in the curriculum, it is still quite peripheral in special needs and inclusive education (Inclusivity as a philosophy needs to be understood and is still in its infancy stage). There are as many input (infrastructure, teachers, teaching-learning material etc) challenges as there are process challenges – pedagogy curriculum and attitudes – both of which play a critical role in achieving inclusivity. Over and above this, teacher preparation is essential aspect to work on the process aspects of inclusivity.

In general, and in the context of inclusivity, education must be joyful and support *all* children to succeed. Content and methodology adopted by schools are crucial to achieve inclusivity.

Inclusive education strives to address the learning needs of all children and avoids any kind of exclusion. To achieve this, there is a need to design suitable curriculum, train and orient teachers, provide suitable teaching learning materials. EE/ESD is a highly suitable area for inclusivity due to the fact that it lends the much needed flexibility to the curriculum and emanates from the environmental, social, cultural and economic realities of the people, it can be empowering for the learners.

The Cashew project is a four-country project. All the four countries have an interesting linkage to the Cashew (Germany being a big consumer while India, Mexico and South Africa being producers of the Cashew). This makes the Cashew a familiar food item.

The project follows the strategy of placing the teacher in a key position and supporting her/him with interesting and relevant resource material. One of the strongest measures to ensure EE is in creating a cadre of teachers committed to EE/ESD. They can prove to be a building block for widening the mandate of education to include EE and ESD. Wilke et al 1987, stated that: the key to successful environmental education is the classroom teacher.

The Cashew Project has also involved teachers working with Learners with special needs, such as hard-of-hearing, deaf-, blind-, sighted learners as well cognition and complexity to ensure that resource material is designed to suit inclusivity objectives and achieve the pursuit of ESD. Cashew is the opportunity for ESD! The inspiring words of Chico Mendes (Brazilian Rubber tappers' leader and environmentalist),

"At first I thought I was fighting to save rubber trees, then I thought I was fighting to save Amazon rain forest. Now I realize I am fighting for humanity."

These words help us to understand why we chose Cashew as the theme of our programme. At first it looks like we are learning about the cashew itself. Then we know we are learning about environmental, social, economical, political and cultural aspects of cashew in four countries. Finally, Cashew is a means for teaching and learning ESD with a focus on inclusivity. Teachers in this project group, found this strategy useful to leverage content for learning.

Living in a modern globalising world

The Cashew ESD modules are orientated within the globalising experiences of teachers and learners in a changing world. Hoffmann (2017) noted that:

"Our everyday life is highly globalized. We may wake up with an alarm manufactured in the Far East, and continue the day reading the news feeds on our smartphones designed in the US but produced in China or Taiwan. There is a big chance that the clothes we wear are 'made in Bangladesh', Vietnam or China. Any delicacies we enjoy in our breakfast may come from Europe and beyond, and we may drive or be driven in an Asian small car to work. In a similar way, the day is beginning for millions of people around of the world. This perspective on relevant learning in relation to learner life experience, prior knowledge and purpose, can be activated using tools of the Sustainable Development Goals (SDGs) to contemplate what might be necessary for modern globalising societies to transition to future sustainability."

The Sustainable Development Goals as a roadmap to future sustainability

Education for Sustainable Development (ESD) has become a rapidly expanding and integrating field since its emergence as a global education focus concerned with future sustainability. The Cashew modules were developed as an adaptable collection of ESD materials for inclusive education. They are designed for ESD as a participatory process of learning-led change where one now finds reference to sustainability competences, learning objectives and outcomes for achieving the SDGs.

Subtle differences in education narratives related to the SDGs refer to competences, capabilities and learning objectives or outcomes for the planning of learning programmes to develop competences in the expanding contexts of ESD.



Figure 1: The Cashew modules – an adaptable collection of ESD materials for inclusive education

Developing ESD competences

Today, competence approaches to ESD are found in both school curriculum and community contexts, and are commonly informed by the UNESCO 2030 Agenda for Education. A strengthening of ESD emerged with Agenda 2030 and the formalising of the SDGs (UNESCO, 2017) which are now guiding training programmes where sustainability competences are being specified and assessed as learning outcomes. Similarly, in civic/community learning initiatives, situated competence can be mapped out as desired capabilities that participants might hope to achieve through participatory and collaborative processes of transformative learning in response to local sustainability concerns.

Competence in ESD refers to the knowledge, dispositions and a capacity to act together in ways that enable participants to recognise concerns, assess value and act on emerging matters of concern (Schreiber & Siege, 2016, p. 91). Useful sets of competencies were specified by de Haan (2010), Wiek et al. (2011) and Rieckmann (2012). These works reflect the successive and expanding specification of competences to inform how ESD could be developed to produce the sustainable futures that we want.

The competences specified for future sustainability include:

- 👉 Systems thinking competency
- 👉 Anticipatory competency
- 👉 Normative competency
- 👉 Strategic competency
- 👉 Collaboration competency
- 👉 Critical thinking competency
- 👉 Self-awareness competency
- 👉 Integrated problem-solving competency (UNESCO, 2017 p. 10).



Figure 2: Transversal competencies in basic education in Finland (Halinen, 2017)

Irmeli Halinen (2017) has mapped out a set of transversal curriculum competences in relation to learning for future sustainability and global citizenship in a UNESCO Finnish case study of ESD in basic education (See Figure 2).

Transversal competences have been identified as futures-orientated competences for learners to develop in relation to local and wider sustainability concerns. Halinen noted how a cross-cutting ESD orientated curriculum can enable teachers to develop curriculum programmes where:

“Each subject builds students’ transversal competencies through the concepts, content and methods typical of that discipline. The process of developing competence is influenced not only by subject content that students study, but also, and especially, by how they work and by the nature of the interaction between the learner and the environment. The feedback that students receive, along with the guidance and support for learning, influence their attitudes, motivation and willingness to act.” (Halinen, 2017, p.27)

Here, each teacher can work with the SDGs on sustainability concerns in a specific subject field or in a multidisciplinary programme set out to develop subject learning competences alongside the wider, transversal competences for future sustainability specified for ESD curriculum planning in the above diagram. Halinen noted how:

“Multidisciplinary learning modules and competence development do not mean abolishing school subjects. Rather, the role of subjects is changing, and much more cooperation among subjects is needed.” (p. 31)

The UNESCO (2017) text on learning objectives is also useful for relating the SDGs to transversal, multifunctional and context-independent competences for future sustainability that are useful for framing ESD in curriculum settings.

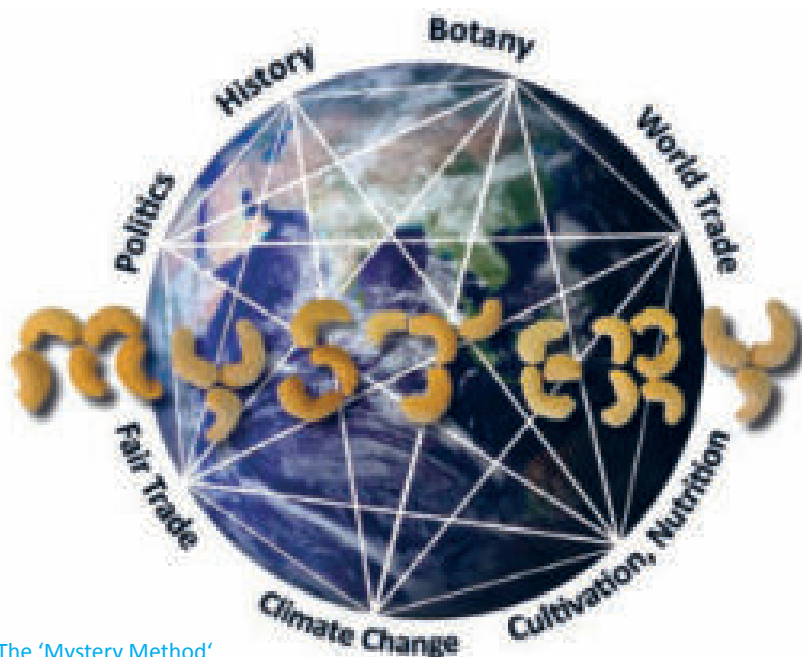


Figure 3: The 'Mystery Method' for exploring cashews

An inclusive multidisciplinary curriculum with cashews

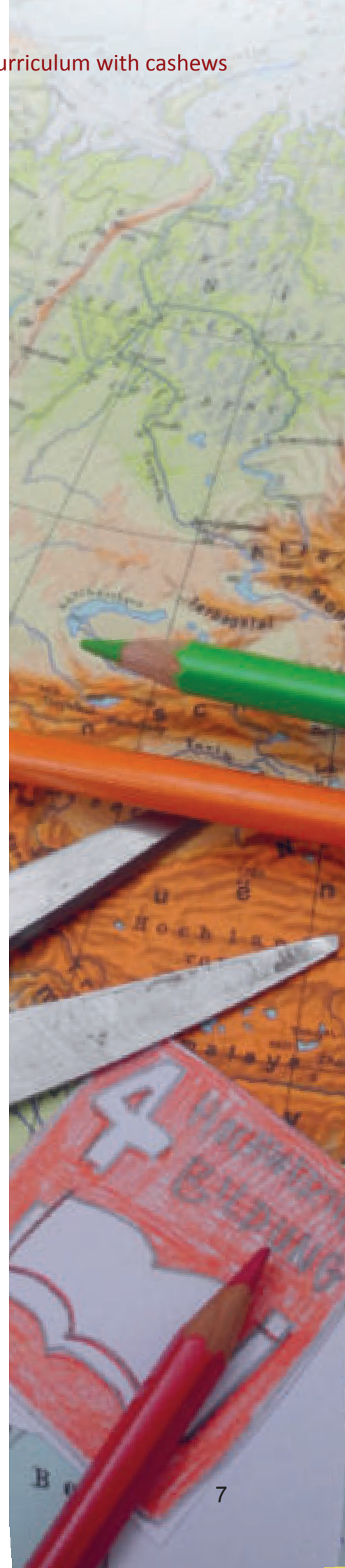
The inclusive curriculum rationale for school subject orientated, multidisciplinary learning processes resonates with competency perspectives used by Hoffmann (2017) in framing the Cashew learning activities. These invite teachers and learners to work with and adapt the modules to begin to develop ESD competences as capabilities for future sustainability. The modules provide educators with stimulating cognitive content, challenging social-emotional focus areas as well as practical learning-to-change actions towards future sustainability and social justice.

The cashew materials for ESD by *bezev* (Disability and Development Cooperation) and the ESD Expert Net are presented as an adaptable resource for inclusive education and for the planning of diverse subject-centred curriculum programmes in the partnering countries (Germany, Mexico, India and South Africa) of the ESD Expert Net.

The Cashew materials were primarily developed for inclusive education in Grades 8-10 but the scope, scale and level of the activities can be adapted for inclusive use in multigrade classrooms as well as for selective use in earlier grades.

The modular topics are reflected in a graphic that relates many of the dimensions of cashews that have become a modern snack food for the rich. The materials can be used in ESD programmes in different subject areas to probe social-ecological and social justice concerns related to World Trade, Climate Change and Fair Trade, for example. Added to this, the open modular structure reflected in the graphic invites learners to acquire knowledge and explore (recognise and assess) many dimensions of the Botany, History, Cultivation and the Politics of cashews. The complexities within the modules build learner knowledge, perspectives and competences in collaborative deliberation. Here, the 'mystery method' challenges and invites learners to grapple with and deliberate the complex realities of global ESD concerns in relation to cashew production, trade and consumption.

The strength of the cashew modules resides in how they are both open-ended explorations and adaptive to use in inclusive ways in diverse school subjects and in multi-disciplinary learning contexts.



Learning with cashews to recognise concerns, assess value and act for future sustainability

In the planning of collaborative learning-led change in curriculum settings, the goals of education are represented in cross-cutting competences that enable participants to recognise concerns and to assess these so as to take action towards desirable states of future sustainability for humanity as a whole. The specified competence categories and the embedded progression here (recognition, assessment and realising action) are useful in curriculum planning for engaging participants in learning-led change. A competences approach to the curriculum allows learning programmes like the cashew modules to be designed so as to:

- ☺ include specified cognitive (knowledge) dimensions where learners come to recognise (know and understand) local concerns;
- ☺ support the activation of the social-emotional capabilities for assessing (feeling and relevance) of these in their context; and
- ☺ enable behavioural responses in learners as citizens through a developing capability to act (do) towards producing more sustainable futures.

Planning action learning with the cashew modules

The interlinked progression for learning in the cashew modules, includes:

- ☺ recognising what is known;
- ☺ assessing its felt importance;
- ☺ activating a creative capacity to act.

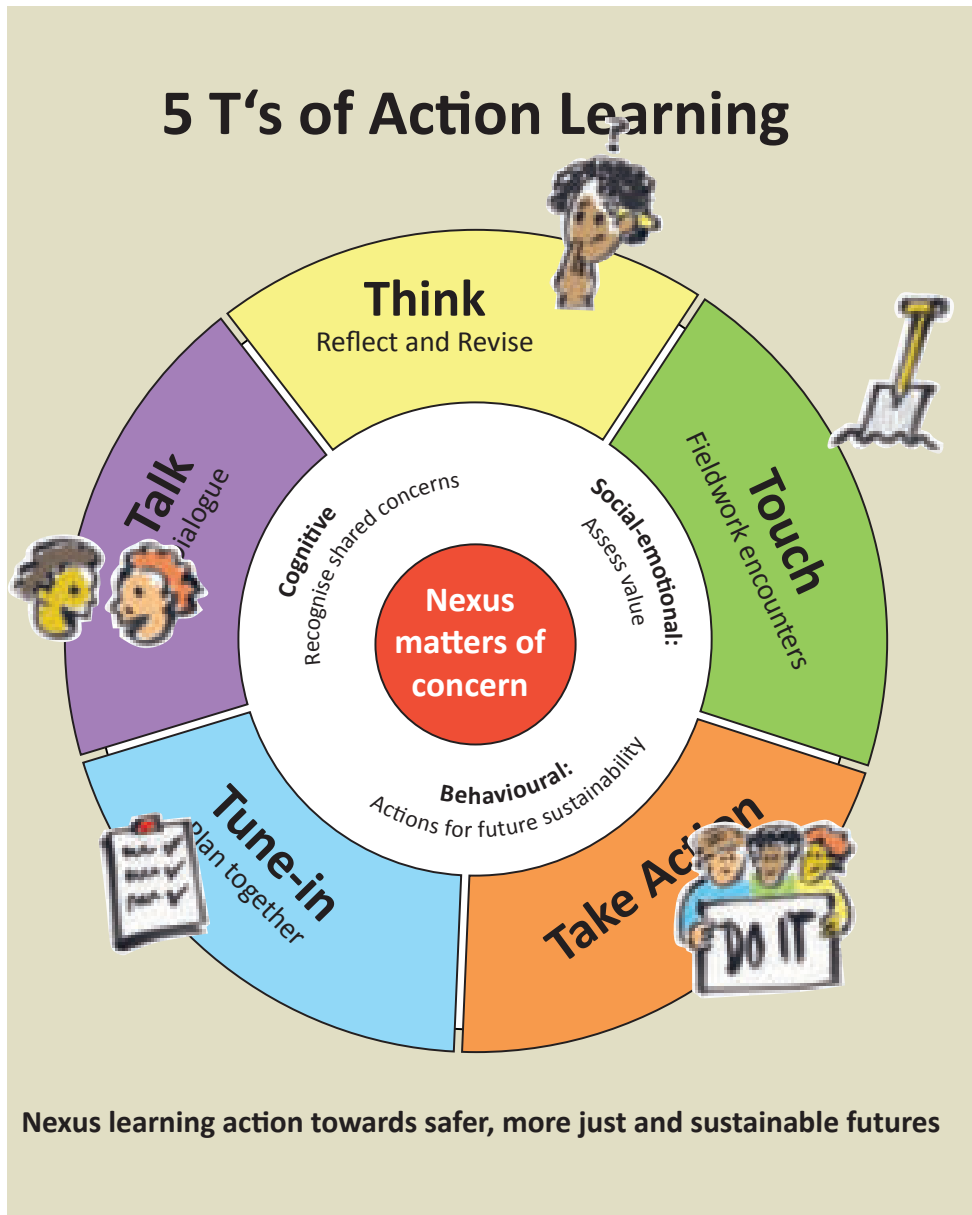
Here a central ESD tenet for participants to recognise things as meaningful and to assess these in relation to shared concerns so as to be willing to act, is reflected in the principle that:

“The method which people use in acquiring knowledge is functionally interdependent with, and thus inseparable from, the substance of the knowledge they possess, and especially from their basic image of the world.” (Elias, 1978, p. 64)

The schematic for 5T action learning maps (see Figure 4) shows how learning interactions with the cashew modules can be built around learner experiences and prior knowledge interests in a nurturing school environment that supports the acquisition of subject knowledge (concepts) and deliberative learning that can enable teachers and learners working together to create the school environment and key aspects of the futures they want.

As a simplified planning framework, the 5Ts of action learning remind us to support learners to Tune-in to nexus matters of concern. In the cashew modules, the concerns can be built up as work with the materials progresses with developing Talk and Thinking as well as practical Touch and discussions on how it is possible to Take action to change things for the better (safer, more just and sustainable futures that we can imagine together). As with all environment and sustainability work in the curriculum, one of the key focus areas for action experience is the whole school.

Figure 4: The 5Ts of Action Learning



Integrating cashews in a whole school approach

A Whole School development approach to ESD can enhance the start-up experiences and spark the interests of the learners and these can be taken up into the cashew learning modules. Here the interplay of ESD learning objectives and content specified with learners and within the curriculum subjects can support learning. In this way, a subject-based multi-disciplinary study can produce expanded cognitive development, social-emotional learning and positive actions in relation to the desired goal of future sustainability.

Note how the experiences and interests of the learners are the starting point in the cultural contexts of the school and how the objectives and content are fed into the learning materials and processes alongside a complementary concern for actualising specified transversal competencies for future sustainability.

Natural Science

History

Politics

Climate Change

Cultivation
Harvesting
Processing

Fair Trade

World Trade

Mystery

How the cashew modules can be selected and adapted for inclusive learning

Curriculum processes such as these are evident in how the history, botany, world trade and politics modules on cashews can be used to build knowledge around patterns of cashew cultivation and the nutritional snack foods that are primarily the food of the rich in wealthy countries.

Accumulating knowledge begins to play out complex global concerns in relation to fairness in world trade and the possible impact of impending climate change on cashews as a global crop. The open-ended and multi-disciplinary structure of the learning modules allows learners to accumulate knowledge that they can use to deliberate some of the complex dimensions of cashew production and consumption.

Here, there are no clear-cut answers or points of agreement without the mystery method for grappling with and deliberating some of the complexity together. The cashew questions remain open and the mystery method is a useful way for learners to deliberate their way towards the systems thinking, critical perspectives and integrated problem solving competences necessary for participants to be able to realise aspects of the futures that they want.

Working with and from the SDGs, the cashew curriculum modules have been developed as an open resource for inclusive education. Here the concept of inclusion seeks to provide for the learning requirements of all learners of diverse abilities.

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The Sustainable Development Goals (SDG)

1 NO POVERTY 	Goal 1: End poverty in all its forms everywhere	Cultivation WS 3 World Trade WS 1-3 Mystery	10 REDUCED INEQUALITIES 	Goal 10: Reduce inequality within and among countries	Cultivation WS 2, 4 History WS 1 Politics WS 2, 4 Fair Trade WS 1-4 World Trade WS 1-2 Mystery
2 ZERO HUNGER 	Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture	Natural Sciences WS 7 Cultivation WS 3	11 SUSTAINABLE CITIES AND COMMUNITIES 	Goal 11: Make cities inclusive, safe, resilient and sustainable	
3 GOOD HEALTH AND WELL-BEING 	Goal 3: Ensure healthy lives and promote well-being for all at all ages	Natural Sciences WS 7 Fair Trade WS 1-2	12 RESPONSIBLE CONSUMPTION AND PRODUCTION 	Goal 12: Ensure sustainable consumption and production patterns	Fair Trade WS 1-4 World Trade WS 1-2 Mystery
4 QUALITY EDUCATION 	Goal 4: Ensure inclusive and quality education for all and promote lifelong learning	Natural Sciences WS 1-7 History WS 1-2 Mystery	13 CLIMATE ACTION 	Goal 13: Take urgent action to combat climate change and its impacts	
5 GENDER EQUALITY 	Goal 5: Achieve gender equality and empower all women and girls	Cultivation WS 3 Fair Trade WS 1-2	14 LIFE BELOW WATER 	Goal 14: Conserve and sustainably use the oceans, seas and marine resources	
6 CLEAN WATER AND SANITATION 	Goal 6: Ensure access to water and sanitation for all		15 LIFE ON LAND 	Goal 15: Sustainably manage forests, combat desertification, halt and reverse land degradation, halt biodiversity loss	Natural Sciences WS 1-6
7 AFFORDABLE AND CLEAN ENERGY 	Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all		16 PEACE, JUSTICE AND STRONG INSTITUTIONS 	Goal 16: Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.	
8 DECENT WORK AND ECONOMIC GROWTH 	Goal 8: Promote inclusive and sustainable economic growth, employment and decent work for all	History WS 1-2 Cultivation WS 2 World Trade WS 1-4 Fair Trade WS 1-4 Climate Change WS 1-2 Mystery	17 PARTNERSHIPS FOR THE GOALS 	Goal 17: Revitalise the global partnership for sustainable development	
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE 	Goal 9: Build resilient infrastructure, promote sustainable industrialisation and foster innovation	History WS 2 Politics WS 5 World Trade WS 1-4 Mystery			



Special educational needs



Cognition and Complexity

Fundamentals

Children with cognitive difficulties are a very heterogeneous group with a wide range of abilities, skills and talents. This group includes children diagnosed as needing assistance with learning and mental development. This requirement manifests itself in many ways. To work successfully, this group is particularly dependent on understandable and simplified language, clear structures and small amounts of exercises. To respond individually to every learner, the tasks of the modules are separated in three groups with different levels of difficulty. Group 1 represents the strong group, group 2 the middle and group 3 the group of learners with very limited reading, and cognition abilities. In some cases, the worksheets are divided into two groups.

Tips

For children with cognitive difficulties, it is expedient to reduce subject matter to the essentials and then go into the details. The learners must be given the time needed to become familiar with and assimilate the subject matter. It is also essential to establish connections to everyday life. This can arouse and consolidate their interest in and enjoyment of the subject matter.

Learning

Learning assistance is the type of assistance required by most children with special educational needs. Many such children are taught in inclusive classes, which offer them many opportunities for successful learning. In addition to providing assistance, the focus in inclusive classes should be on prevention in order to avoid the occurrence of learning disorders. The developmental and educational objectives of public schools also apply for children needing learning assistance, with the provided assistance being appropriately individualised and differentiated.

Children requiring learning assistance are not a homogeneous group. A diagnosis involves ascertaining serious, extensive and lasting difficulties in learning new material and is unique to each child. Reasons for lasting learning difficulties can be found in factors such as cognition, motor skills and perception, and in social factors such as emotional or cultural influences. Language problems can also make learning more difficult. Children requiring learning assistance often work (in particular, read



and write) slowly, have difficulty processing and understanding exercises and texts and suffer from difficulties to recall learned material. The children can be supported in their learning process by practising learning and memory strategies in class. Most children requiring learning assistance need comprehensive support and individualised, simplified learning objectives, while others merely need support in limited areas. Stigmatising or labeling of learners should always be avoided, without losing sight of individual needs for assistance.

Five main principles should be considered when teaching children requiring learning assistance:

- ☺ Differentiation (time, methods/media, number of exercises, subject matter);
- ☺ Reduction (quantity, clarity, objective);
- ☺ Motivation (importance, relevance to everyday life, clarity, holistic learning);
- ☺ Focus on action (promote active involvement, train activity planning, acceptance of responsibility);
- ☺ Repetition/ritualisation (structure of content, space and time, interesting and motivating repetition, clear rules).

Deaf and Hard-of-hearing



Fundamentals

People who are born with hearing loss or acquire hearing loss later in life are faced predominantly with challenges in communication. Our social environment is dependent on hearing, and if this function becomes completely or even partly unavailable, we lose an important source of connectedness for interpersonal communication and the acquisition of information, irrespective of whether the acquisition of information is intentional or incidental.

A special subset of the deaf community is deaf children of deaf parents. These children are exposed to signed communication from birth, which is acquired as their native language, giving them a solid and structured first language for understanding the world. There is a tendency for these children to learn written language, which is based on spoken language, more proficiently than their deaf peers who grow up with hearing parents.

An equally special subset is hearing children of deaf parents who are exposed to signed communication before learning spoken language. These children are exposed to spoken language intermittently in the formative years, which is often consolidated only when they start school. This group is raised with two native languages – signed and spoken language.

Deaf learners who experience severe to profound hearing loss should be in a setting where teaching and learning is mediated by signed communication. The curriculum should be accessed through the system of signing that is indigenous to the country. In this context, the teacher and all other personnel in the school setting should be fluent users of sign language.

However a learner who experiences mild to moderate hearing loss and who is generally referred to as hard-of-hearing, can be integrated in a class of hearing learners, in an aural-oral context, provided there is relevant support. This support, which is elaborated below, includes the use of hearing aids, lip-reading and contextual accommodations.



Hearing aids

Hearing aids are assistive devices that augment communicating but do not compensate for hearing loss. Even with the most advanced hearing aid technology, hard-of-hearing learners will not achieve full hearing functionality.

Lip-reading

Hard-of-hearing learners should be addressed in a normal speaking volume and without exaggerated articulation, since loud or overly articulated speech can severely distort the lips and facial expression, making it very difficult to read the speaker's lips. When communicating with hard-of-hearing learners, it is important to face them so that they can read the speaker's lips. The teacher should speak before or after and not while writing on the board.

Seating

Hard-of-hearing learners should have the opportunity to sit where they can observe everybody in the room. A place relatively close to the front of a U-shaped arrangement is preferable, but with the back to the window to obviate distraction of backlighting.

Getting attention

To get the attention of hard-of-hearing learners, e.g. when they are not facing the speaker, you can knock on the table in front of them, tap lightly on the shoulder. Switching the light on and off quickly can prompt learners to direct their attention to the front of the room. Some argue that touching learners to gain their attention is not recommended as it keeps them from learning the social boundaries of interpersonal communication.

Visual cues

Visual cues such as pictures or real objects, or attaching important written instructions, assignments, work results, etc. to the board are enormously helpful to hard-of-hearing learners as they can use such aids to reassure themselves that they have been correctly understood. Such visual cues can also aid comprehension when learners lack knowledge of some words from lesson content.

Large groups / Group assignments

Communication and comprehension when working in groups can be very challenging for hard-of-hearing learners since they have to concentrate on multiple counterparts simultaneously at a higher noise level. 'Talking stones' that indicate who is speaking and modifying the behaviour of the speakers can be helpful. It should also be possible to see the speaker at all times. When hard-of-hearing learners use an FM system, its mobile microphone can be passed to the current speaker. Repetition, by the teacher, and emphasis on important statements is recommended during conversations in class.



Vision and Perception

Fundamentals

Children with special education needs related to vision and perception comprise the smallest group. In addition to blind children, this group also includes those with various degrees of visual impairment or who suffer from cerebral visual impairment (CVI), disorders affecting the processing of visual signals by the brain. What all have in common is that their impaired eyesight complicates their access to information from their immediate or more distant surroundings. As a result, their perception of their environment is often inaccurate or incomplete. Educational approaches for children with special needs related to vision and perception address exactly the specific problems of the individual children, aiming to tie into their existing knowledge and expand or complete it. Subject matter is first presented in an action-oriented and simplified manner, and then the acquired knowledge is gradually strengthened and expanded. Texts are often abridged, or an effort is made to present the content using other media in order to avoid continuously overtaxing the children's visual performance and enable them to concentrate longer on other important subject matter.

People with severe visual difficulties can often read black print, distinguish good, high-contrast pictures and diagrams, and move about independently in familiar rooms using their personal visual aids such as glasses, magnifiers, video magnifiers or monoculars. They can also ask for personal assistance when needed. At school, children requiring assistance with vision and perception are often supported by teacher aids, and teachers adapt to the specific needs of this group of learners by making individualised modifications to class materials, providing intensive verbal support during lessons, and attempting to teach in as action-oriented a manner as possible. An effort is made to reduce as much as possible, depending on subject, material and class level, the visual requirements such as reading long texts so as to avoid tiring the learners too rapidly so that they can concentrate more on important content.

Tips

The following considerations for teaching visually impaired children can facilitate instruction and enable more successful learning. Listed below are some methods, didactic principles and tips that should be considered when adapting an exercise for children with special vision and perception needs.

An action-focused approach makes it easier to understand relationships and facilitates learning with all senses (touching/feeling, hearing, seeing, tasting and smelling).

Provide sufficient lighting; avoid glare; some need dim light.

Proceed with teaching and learning in small steps; allow up to 30% more time for reading, examining and observing, for working with materials and objects, also for gathering information with other senses and integrating it into a complete unit.



There should be verbal accompaniment of actions and of visual information so that missing information can be assimilated by listening.

Develop concepts through actual encounters with real objects or miniature replicas; offer diverse opportunities for fundamental conceptualisation.

High-contrast presentation is helpful, e.g. black on white, black on yellow, clean copies, clean boards, perhaps use yellow chalk or work with whiteboards or smart boards.

Clearly structured assignment sheets and pictures.

Provide verbal communication signals such as directly addressing learners.

Include movement and relaxation elements in phases demanding increased visual attention to enable the learners to recover from their visual exertions. Encourage describing situations of visual perception.

Remind learners frequently to use their personal visual aids. Children often tend to say they don't need their aids. However, working without them is much more strenuous, causing them to tire more quickly and become easily distracted. The same also applies for magnified text. Here, too, learners tend to say that the font size is big enough, though it can slow them down or they may even be unable to read it.

Learners with visual difficulties are equipped with technical aids, which can be electronic or optical in nature: glasses (for magnified close-up reading), magnifiers (held in the hand, also used for close-up reading), monoculars (for viewing distant objects) or edge filter lenses (compensate for sensitivity to glare and improve contrast vision). Canes serve as orientation aids. In addition, easy-to-use imaging devices (e.g. digital cameras, smartphones), output media for digital text (e.g. computers, e-book readers, tablets), PCs with braille displays, mobile camera reading systems, video magnifiers, etc. are also used as aids.

Differentiation – a key strategy for responding to diversity involving modifying and adapting, extending and varying aspects of the curriculum

Adapt the physical space to suit the learners with visual impairment for mobility purposes.

Keep furniture in its space to avoid confusion.

Provide orientation and mobility lessons for the learners to access the environment independently.


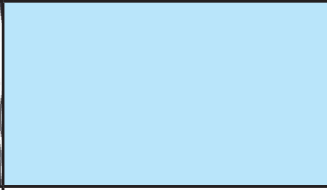












Approaches to adaptation of visual material.....

A picture or diagram can be simplified or shown differently, replaced by a written description, supplemented by a written explanation, replaced by a real object or model, removed if considered unnecessary and altered to compensate for accurate measuring.

Tactile material at foundation phase should be introduced.

Concessions to be granted to learners.....

			
Additional time	Adaptation of question papers and questions	Amanuensis – script and readers for learners who cannot read and write	Braille
			
Computer	Apex Braille note	Eye-pal solo	Enlarged print
			
Reader	Oral exam – recorded	Tape aid	Audio books

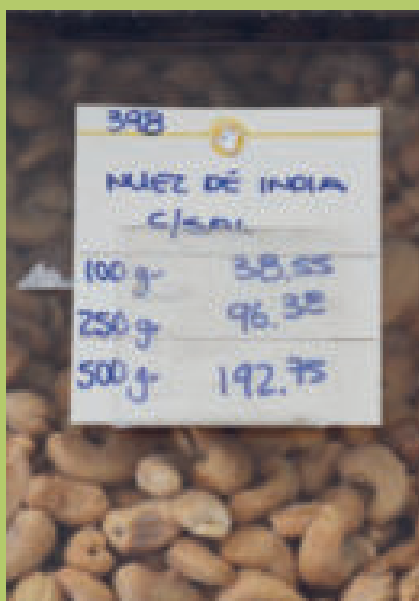
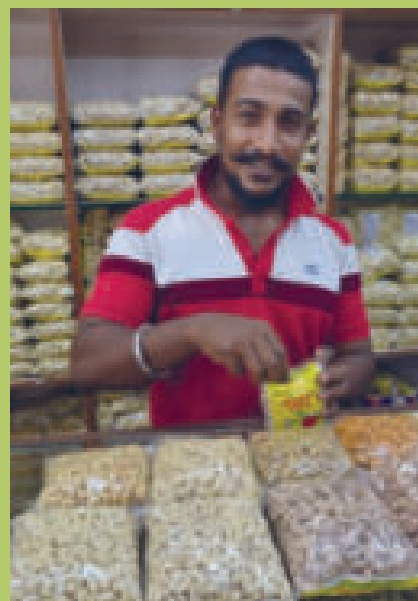
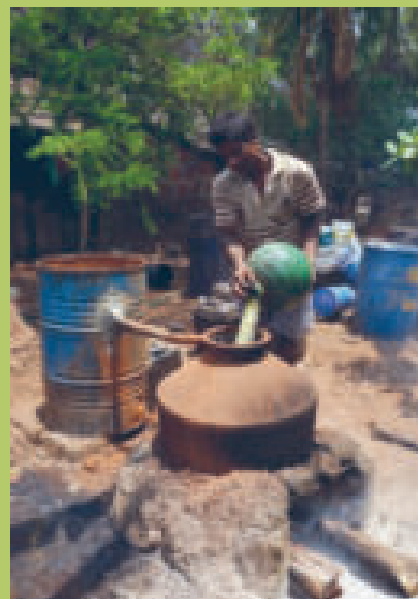




Illustration: © lantha Naicker, South Africa

Facts about Cashews

Nuez de la India ('Indian nuts') are what the Mexicans call cashews. This is incorrect in two ways: cashews are not actually nuts, but rather seeds (a nut consists of both a seed and a hard shell that does not open easily to release the seed) and secondly, while India is the third largest production country, cashews actually originated from the Amazon lowland. Cashews are regarded as special around the world today for a number of reasons: the unique form of the fruit, their health promoting properties, and their recent popularity around the world associated economic boom. This diversity of interesting and unique features, their global demand and the resulting global trade, offer an opportunity to focus on central themes of our globalised world by studying this small delicacy and looking at the world from the cashew perspective.

The biological characteristics of cashews, their global distribution, history, production and economic significance as well as various forms of global trade, political implications, the effects of climate change on future cashew production mean that the theme of cashews is particularly well suited as a teaching unit for education for sustainable development. Within the framework of this teaching unit, the focus is on various aspects of the cashew, while assessing the structures and processes of our globalised world in order to develop a path towards sustainable

action. This interdisciplinary didactic concept follows the areas of competence “Recognition”, “Assessment” and “Action” of the Guidance Framework for the Learning Area Global Development in the context of Education for Sustainable Development. At the same time, the orientation of the various thematic aspects and teaching steps is designed to take account of the 17 Sustainable Development Goals (SDGs).

There is complexity in the theme of cashews: the phyto-physiological characteristics of cultivation and processing, the effect of colonial history on the global spread and economic importance of cashews, the policy on the framework and design of global trade. This requires a wide range of well-founded didactic approaches to systemic learning in order to work with this complexity. Complex issues require solid knowledge and understanding and therefore, central information, developments, structures and current processes are explained with regard to the sub-topics of natural sciences, cultivation and processing, history, world trade, fair trade, politics and climate change. Stories of cashews from India, Mexico, South Africa and Germany introduce and work with an element of mystery.

Cashew plantation data from Goa

The Cashew trees found in Goa are very old varieties. They do not give as much yield as the new developed varieties. In Goa it is called as ‘idol man’s crop’ because you do not carry out any activities like fertilizing the area, weeding etc. for the trees grown in and around farmland. Today, an owner gets about INR 4000 to 5000 per tree per year. The earnings are from cashew fruit – used to make alcohol and cashew nuts – collected only when they fall down from the tree.

The new varieties of cashew trees yield about 12 kg cashews per tree in comparison with the old variety which is found in Goa, which gave only about 3 to 4 kg per tree. However, the new varieties of trees are not preferred in Goa and are being mostly grown in the coastal areas of Maharashtra.

Commercial cultivation of cashew is done in Andhra Pradesh, Goa, Karnataka, Kerala, Maharashtra, Orissa, Puducherry, Tamil Nadu and West Bengal. Cashew is also grown in parts of Assam, Chhattisgarh, Gujarat, Meghalaya, Nagaland and Tripura. The cashew plantations are however found only in coastal areas of these states and the Western face of the Western Ghats. Cashew does not grow in the semi-arid Deccan plateau of Maharashtra.



Cashew processing has many more steps than deshelling. It is now a highly technical process. Now young women go to multiple cashew factories all over Goa to do this seasonal work. They not only get a better wage of Rupees 15 per kg, but it is considered better than household work which attracts local girls to the factory work.

Our discussions with people in Goa shows that local people are now better off in terms of earning from the factory than a few years ago as daily workers on owners farms.

This is a sea change in the socio-economics and livelihood issues linked to cashew growing processing and marketing. While it would be excellent if cashew workers could form co-operative ventures and grow process and market cashew on their own under the provisions of the Biodiversity Act, 2002, this would further improve their capacity to earn from cashew crops, that are currently managed by individual farm.

This would require that each village develop a Biodiversity Management Committee. Develop a local People's Biodiversity Register at village level that mentions the background of growing cashew traditionally over the past few generations. Inform this to the State Biodiversity Board. Develop a system for Access and Benefit Sharing so that profits from the sale of cashew after packaging can be given back as a percentage of the sale to the grower, the resource collector and the factory workers.

Currently it is mandated that a resource collected by foragers or traditional people should receive 2 to 3 percent of the revenue of marketed products such as traditional medicines made in a pharmacy or a farmer who grows a traditional variety of a crop should get a better return from such a resource from a marketed product under the Biodiversity Act. However, implementation has been difficult and there are major hurdles such as Intellectual Property Rights and Farmer's Act etc that are legal requirements but have remained inadequately implemented.

Thus many steps at Government level and locally at panchayat level have to be put into place so that a more just equitable and sustainable level of cashew resources can be done.

Another issue is the increasing popularity at national level in India of 'Cashew Katli' a diamond shaped sweet made from powdered cashew. This has become a highly popular toffee made by several sweet shop owners. This has again raised the price of cashew considerably.

The women who break open the cashew cover which is a laborious and skilled process are given Rupees 15 per kilogram. In a month they are paid according how many kilograms they have processed. This is done in flexy time as convenient to them. The cashew is collected seasonally and stored in the factory over the year so that it can be processed further. This is roasted in machines and then skinned or packed unskinned. This gives cashew different price ranges.

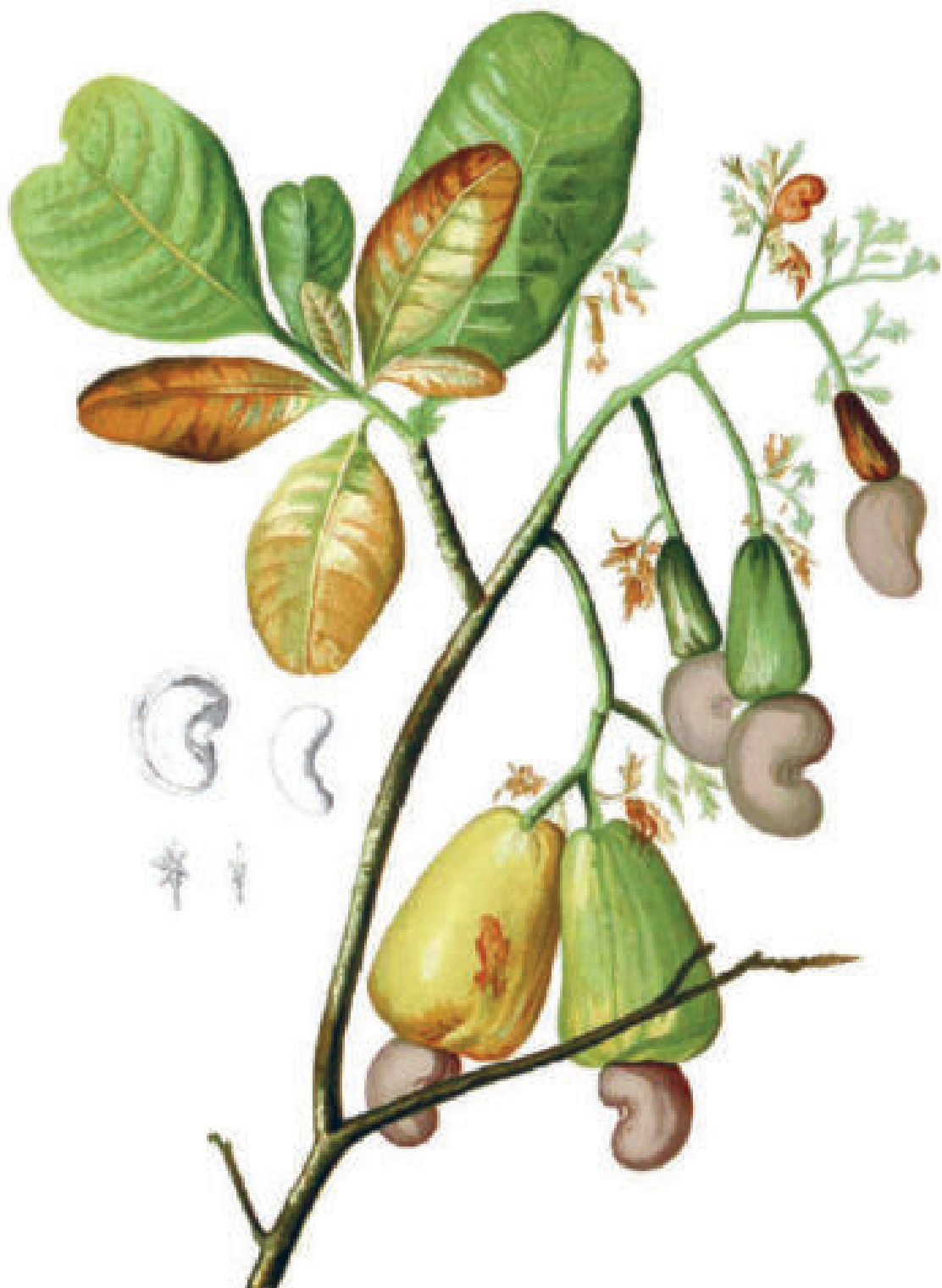


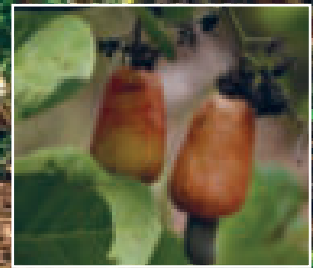
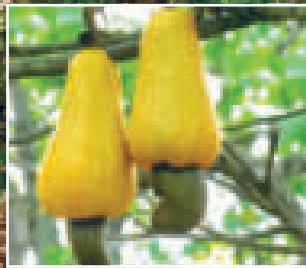
Thus the Rupees 15 per kilogram of covered cashew she gets for opening the outer cover is raised to Rupees 350 to 1200 per kilogram from lowest to highest quality depending on the size of the fruit.

Average cashew now sells for Rupees 800 per kilogram in Goa. Thus a lot of the price is related to the process of dehusking, roasting, packaging and transport before it reaches distant markets.

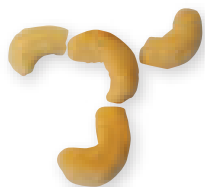
Per month a lady may be able to make about 12 to 15 kilograms per day on an average and could make upto Rupees 6000 to 7000 per month. However, this varies according to the amount of time the worker puts into a day's work at the factory.

Cashew prices online depends on which factory is marketing the product from Goa. This differs if they are natural after skinning, or with skin, or if split into two during the process. The larger the nut the greater its selling price and depends on undamaged or broken nuts which costs less. Each factory and processing unit have a variation in selling price.





Natural Sciences

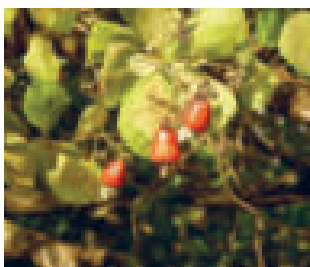
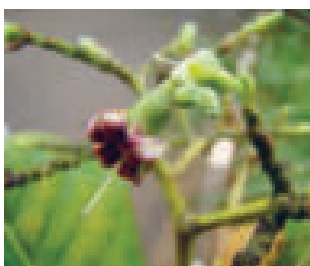
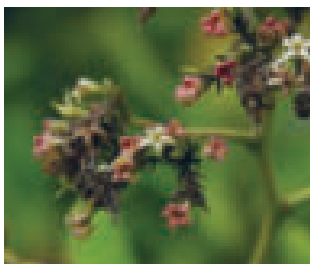
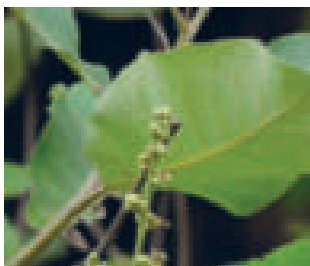
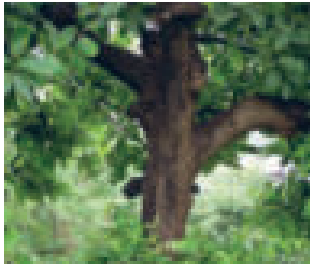


The mature cashew fruit can be found under a closed 'leaf roof' which changes during the ripening process from green to yellow to bright red. Under this 'cashew apple' the actual cashew kernel can be found in a very hard, dark green bowl. The cashew is therefore the only plant whose core is arranged outside the fruit. Although cashews are commonly referred to as 'nuts', they are not true nuts in the botanical sense; cashews are in fact 'stone fruits' like the almond, the pistachio or the peach. The tree bears fruit for the first time after about three years, but it is only after eight to ten years that 15–30 kg of cashew kernels can be harvested annually for about twenty years from each tree. Trees grow to about 10–12 m.

The scientific name *Anacardium Occidentale* is derived from the heart-shaped structure of the cashew kernel and its origin in the western plant kingdom. In fact, the north-eastern Amazon lowland, specifically the region of today's Brazilian state of Maranhao, has been identified as the origin of this tree. From here, the plant spread naturally into the Amazon lowland, across Central America to the southernmost parts of today's Mexico as well as the Caribbean island world. The tree can tolerate precipitation from 500 mm to over 3000 mm per year and can even thrive in very low-nutrient soils, for example on sandy beach floors. The very widespread and deep-rooted root system reaches even deep groundwater and can hold soils together, which is why the tree proves to be a good form of erosion protection. The cashew tree is only sensitive to temperatures below zero degrees Celsius. In particular, young trees can die after even a single night of frost. In view of these characteristics, *Anacardium Occidentale* is clearly a plant of the tropical regions of the western world.

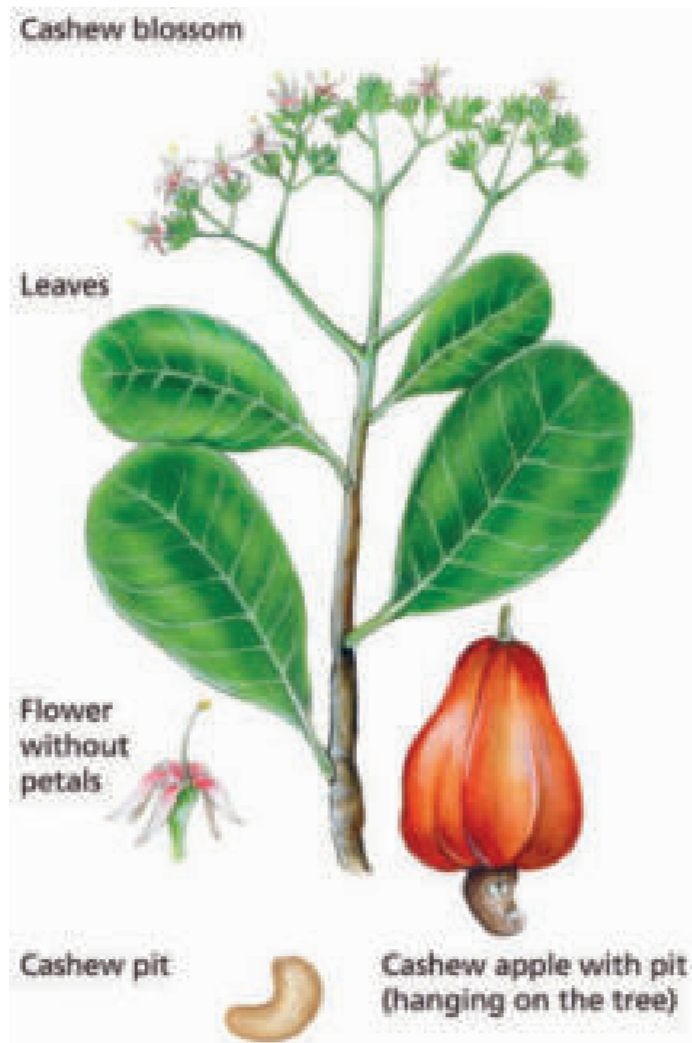
The tree thrives today on all tropical continents between the 31st degree north and the 31st degree south latitude, especially in its region of origin in South

Big Picture: © Rafael Vianna Croffi (CC BY 2.0)
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 Little pictures from the left:
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 3. © Thomas Hoffmann



America, the Indian sub-continent, tropical regions in western and eastern Africa and some areas of south-east Asia. Only some areas in Iran are outside this zone.

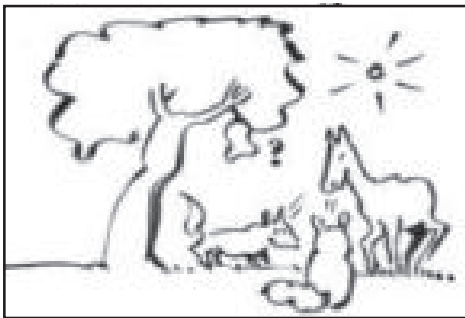
Cashews weigh only between one-fifth and one-third of the cashew shells and are processed in a complex process. The number of cashew farmers worldwide has increased greatly over the past 25 years. In addition to the cashew that is eaten, the tree supplies a variety of other products. The wood cannot be used for construction, only for firewood. The cashew apples are processed into various foods such as dried fruit, jam, juice or even spirits (such as 'feni' from Indian Goa). There are a wide range of uses for the oil stored in the hard cashew shell, which is called 'Cashew Nut Shell Liquid' (CNSL). This is used as a natural wood protection against insect infestation, for example, for painting fishing boats, but also as a basis for the production of synthetic resins used in brake linings or clutch discs. In addition, CNSL is needed in the pharmaceutical industry for blood pressure lowering agents, laxatives as well as medicines for colds, warts and chicken eye infections.



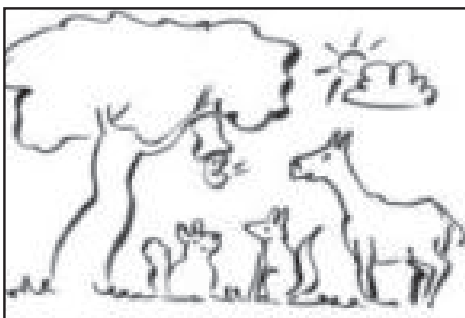
From the top:
 1. © Eric Gaba, (CC BY-SA 3.0) https://commons.wikimedia.org/wiki/File:Cashew_Brazil_tree.jpg
 2-4. © Dinesh Valke (CC BY-SA 2.0)
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 6. © Colleen Taugher (CC BY 2.0)
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from the top:
 Tree, Buds, Blossoms, Cashew
 Fruit



Picture story: How the cashew kernel came to be outside and what happened then.

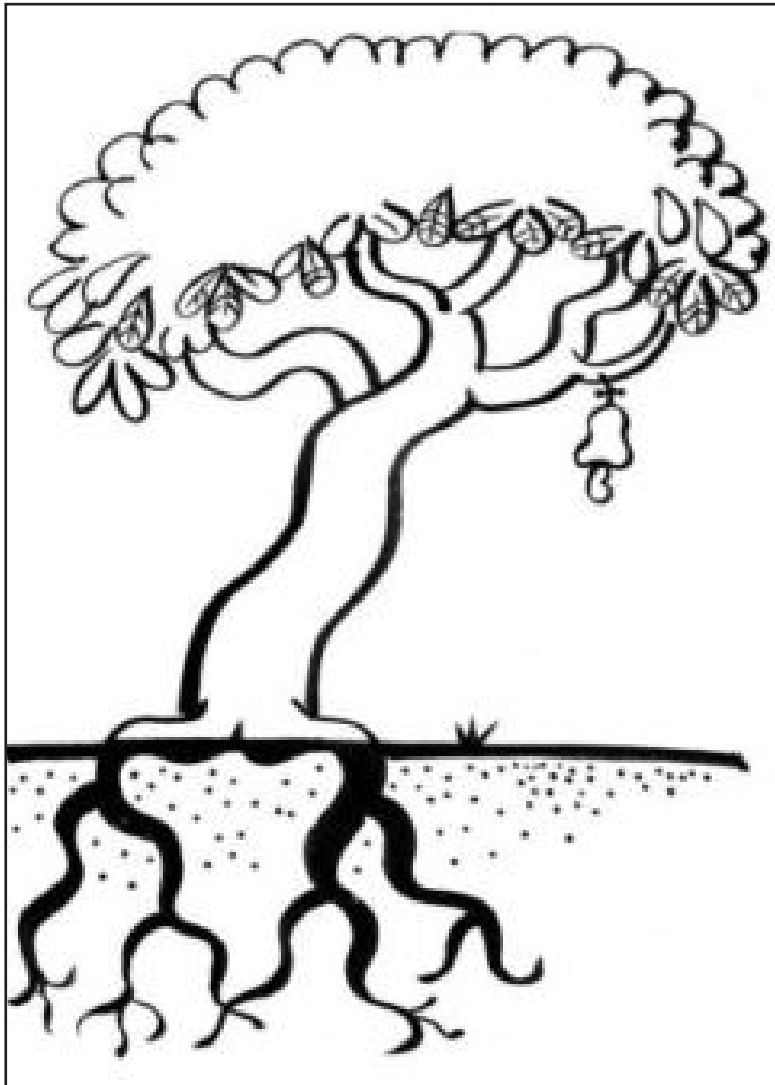




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Methodological and Didactic Guide

The global interdependencies of our time can be approached from the perspective of cashews. Their unusual form and popular taste are all the motivation that is required! To begin, **Worksheets 1a** (WS) and **1b** can be used. One of a pair of learners receives a photograph of a cashew and describes this to a partner who then tries to draw the cashew. When the drawing is finished, it is compared with the photo and both partners can now find out more about what they are looking at.





For a second activity, learners are given a mixture of pistachios, cashews, peanuts and almonds. They may enjoy eating them, but first they need to investigate them. Using **WS 2**, they should describe the shape, taste and characteristics and match the snacks to images of ripe nuts and fruits. Both approaches open up the possibility to ask a wide range of additional questions, such as:




- 👉 What are the red fruits?
- 👉 How big are cashew trees?
- 👉 Is it healthy to eat cashews?
- 👉 Where do cashew trees grow?
- 👉 Can they grow near us?
- 👉 Can you use only the nut or other parts of the tree?




- 👉 What are the red fruits?
- 👉 How big are cashew trees?
- 👉 Is it healthy to eat cashews?



These and similar questions can, in the sense of an Advance Organiser, pre-structure the teaching for the Botany module.



In terms of the wide variety of uses for cashews, learners can use the “Think, pair, share” approach of **WS 3** to create a mindmap on the topic. These can be presented in plenary and discussed. As they expand their knowledge of this unique plant, learners can begin to create a profile (**WS 4**), which can be developed over several modules and action sheets. The fruit as such must also be examined closely. With the help of the **WS 5**, learners can distinguish between the cashew apple and the cashew kernel. **WS 6** can be used to compare cashews with different nuts and to formulate the results of their analysis.

1: What is this?		2: What are we Snacking on?	
 CC	Group 1: The teacher reads the instructions and provides each pair with a photo showing the cashew fruit. Keywords may support the learner.	 CC	Groups 1 & 2: The teacher could give some support by giving some key words to describe the characteristics and taste: oval shape, bean shape, colour, caramel, smell, nutty, pleasant, crunchy, acidic, hard, sweet.
	Group 2: The learner also has to specify which shape the partner should draw in which box. The partner of WS 1b uses three boxes to draw the different shapes into the boxes.		Group 3: Learners taste the different snacks first and combine images of the nuts/ fruits with the snacks.
 D/HoH	Group 3: The teacher gives the worksheet to the learners and shows them how to join the dots. The teacher places shapes of a rectangle, circle, kidney, and square	 VP	Learners taste the different snacks and sort them into four different bowls. They get different nut-shells/peels and sort them. They name the snacks and note their tastes and characteristics.

3: The Cashew Tree	
 CC	<p>Groups 1 & 2: The text is simplified. The teacher can read the paragraphs to the learners while they follow in their books and give the instruction to underline the various uses of the tree.</p> <p>Group 3: The teacher reads the text to the learners. The teacher provides a separate page with the images.</p> <p>There is an audio version of the text “The Cashew Tree”.</p>
 D/HoH	<p>Due to communication restrictions, deaf learners may need a simplified version of the text. During the presentations, deaf learners must face the talking persons. It's also possible to show results to the class or do a gallery walk with all the results.</p>
 VP	<p>Blind/partially sighted learners work in pairs or as a group with sighted learners.</p> <p>There is an audio version of the text “The Cashew Tree”.</p>

4: Cashew – A Unique Plant	
 CC	<p>Group 1: The teacher can read the paragraphs to the learners while they follow in their books and work on the tasks.</p> <p>Group 2: Learners can fill in the missing letters onto the Profile of a Cashew.</p> <p>Group 3: The teacher shows an example of a plant to the learners and they identify the leaves, branches, trunk and roots. The teacher explains the worksheet to the learners where they label the different parts of the tree. The learners may do a puzzle of the cashew fruit.</p>
 D/HoH	<p>Due to their communication restrictions, deaf learners/learners hard of hearing might not have the same vocabulary as hearing learners.</p> <p>If the texts are too complex, deaf learners/learners hard of hearing can use the simplified version of the cognitive adaptations.</p>
 VP	<p>There is a simplified image of the cashew plant on the DVD-ROM which could be used with partially sighted learners. Blind learners should get a similar looking model of the cashew flower from the biology room. Afterwards, they create a profile of the cashew with all the information.</p> <p>There is an audio version of the complex version of the text “Cashew – A Unique Plant” available.</p>

5: Cashew – A very Special Fruit	
 CC	<p>Groups 1 & 2: The educator may write key words on the board to assist the learners.</p> <p>Group 3: The teacher provides the learners with clay as well as an example of a completed clay model.</p>
 VP	<p>Learners get a model which they can feel.</p> <p>A model is available in the box.</p>

6: Are Cashews Really Healthier than Nuts?	
 CC	<p>Groups 1 & 2: The teacher could delete the unnecessary nutritional information on the packet to reduce unnecessary detail.</p> <p>Group 3: Learners practise grouping real examples of food into healthy and unhealthy groups before completing the worksheet.</p>
 D/HoH	<p>During the presentations, it is important that the deaf learners are able to see the persons talking. It's also possible to show the results to the class or to do a gallery walk with all the results.</p>

Material

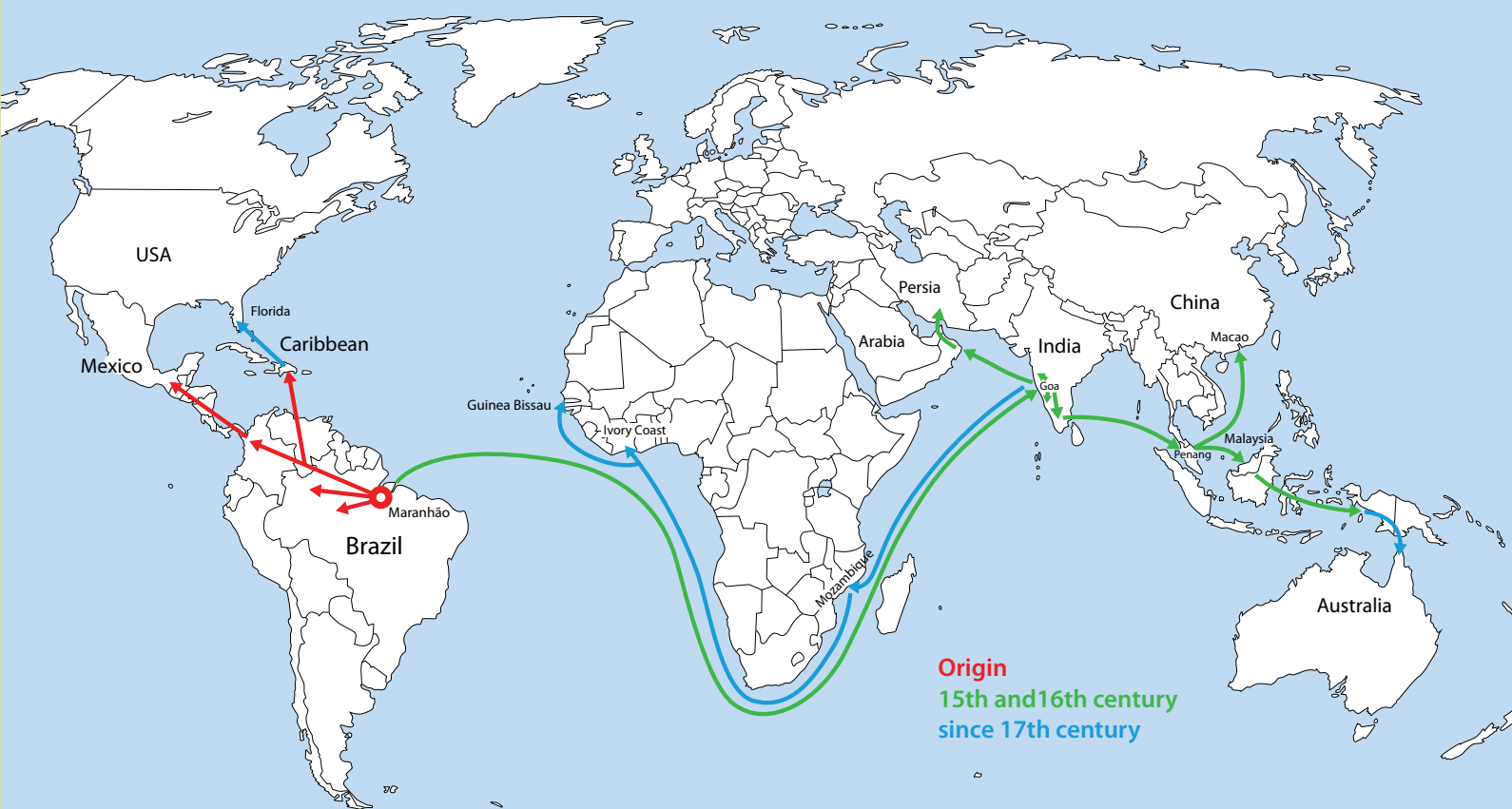
Mixture of pistachios, cashews, peanuts and almonds



- Cashew Picture
- Pictures of various snacks
- Picture of the young and ripe cashew fruit
- Simplified version of the text “The Cashew Tree”
- Information sheets:
 - 1. Important nutrient
 - 2. Comparing nuts
 - 3. How healthy are cashews?
- Simplified image of the cashew plant
- Cashew – A Unique Plant
- The Cashew Tree

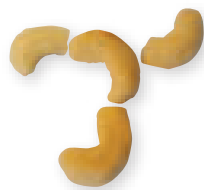


- Cashew Picture
- Cashew Model
- Cashew Puzzle
- Tactile raised images of the cashew
- Pictures of various snacks
- Picture of the young and ripe cashew fruit
- Information sheets:
 - 1. Important nutrients
 - 2. Comparing nuts
 - 3. How healthy are cashews?



First known presentation
of a cashew tree from
André Thevet, 1558

History



The history of the spread of the cashew tree from its place of origin in the Amazon lowlands to the tropical and peripheral tropics of Africa, Asia and Australia can only be understood against the backdrop of European expansion since the 15th century. The Portuguese knew about the cashew tree early in the 16th century in Brazil and appreciated these two things: its root system, which prevents soil removal and the cashew apples suitable for the production of an alcoholic beverage. With the expansion of its trade branches along the African, South Asian and South-East Asian coasts to Macao, the resettlement and exchange of people, crops and cultural customs have increasingly also taken place.

The cashew tree came from Brazil to Goa in the middle of the 16th century, the most important commercial branch of the Portuguese on the Indian sub-continent. Whether the primary motive for this transfer was the protection of erosion along the coasts, or the production of alcoholic beverages, is not clear. It was not the cashew kernels that motivated the Portuguese, and the Portuguese were also not guided by the interests of the world economy. However, especially from the nineteenth century onwards, cashews were grown in many parts of the tropics and sub-tropics in plantations in the context of colonial power and economic structures. Newly introduced plants were left to themselves.

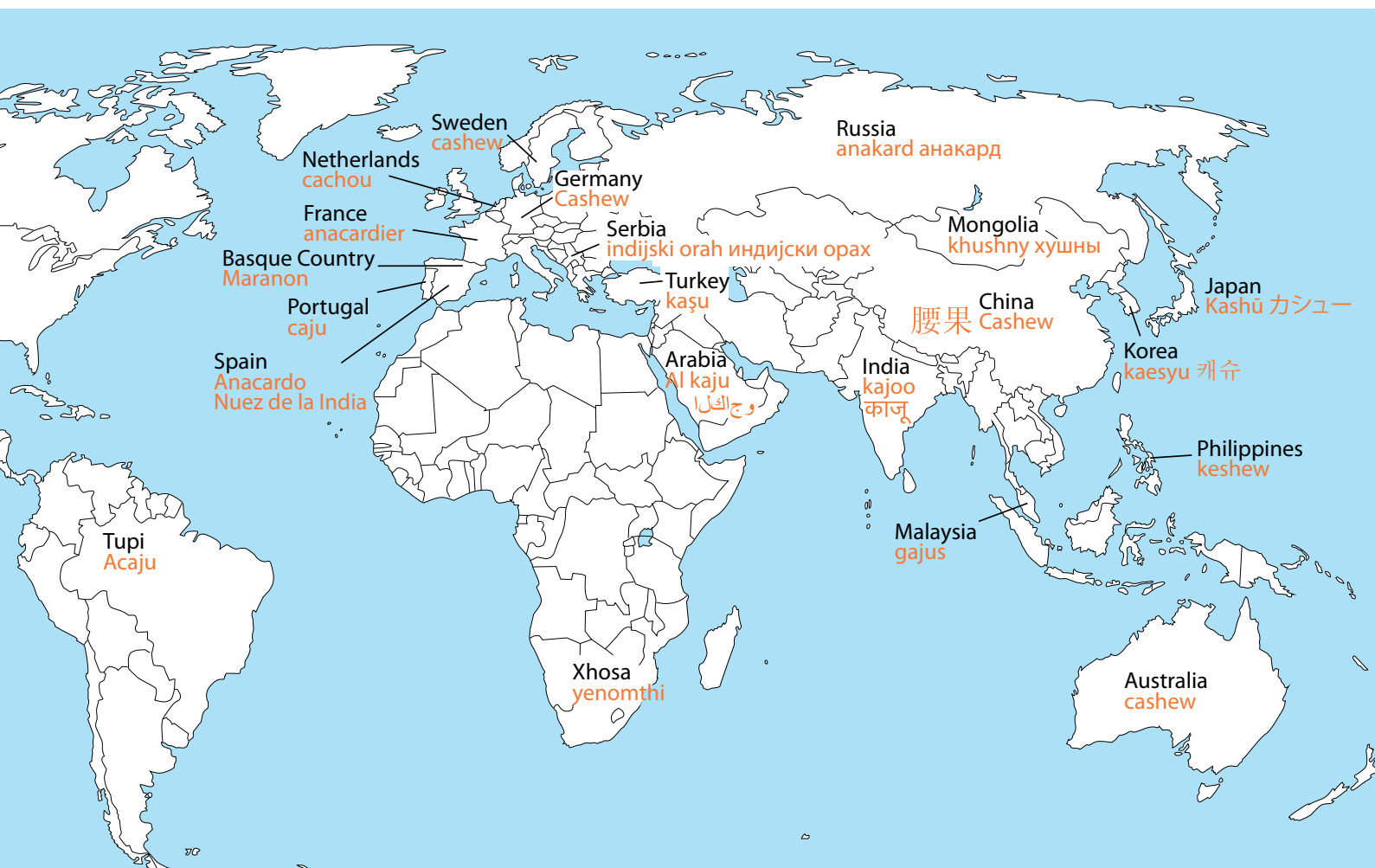
Elephants contributed considerably to the further spread of cashews from Goa into much of southern India. Partly digested cashew kernels eaten by elephants spread southwards. The fruits were harvested for their economic value in Goa for the production of 'feni'. This brandy distilled from the juice of the cashew apples is still produced only in this region in small farms and has regional brand protection.

Cashews were collected from forests and integrated into the diet of the poorer rural population of India. There was no social recognition associated with the production of cashews, such as with crops like coffee or tea.

However, from the sixteenth century the Portuguese extended their global trade into Mozambique, Africa, Guinea-Bissau and some regions in South-east Asia. But cashews were only really valued for their anti-erosion properties during the 19th and 20th centuries. Only since the beginning of the 1990s has the global demand for cashew cores increased rapidly, due largely to the changes in the leisure and eating habits of the West. Prolonged free time and the growing interest in television and/or media devices can be associated with a trend towards increased snack consumption.

Characteristics typical of the globalisation of our time are reflected in cashew production methods and trading conditions now observed in India, Vietnam and many African countries: unequal working and income conditions as well as unequal trade relations.

The names of the Cashew



Coloured drawing by
Caspar Schmalkalden
(c.1618–c.1668)



Methodological and Didactic Guide

Current developments, structures and events always precede a development over time. The fundamental realisation that everything has a history can develop and be understood by students in a wide variety of topics, including the complex theme of cashews. A look at the diverse areas of origin of the cashews delivered to the global market raises the question of where the cashew trees come from, how widespread they are throughout most of the tropical world and how cashews are used economically today.

With the aid of the [Worksheet 1](#) (WS), the students have the task, with the help of an information text, to reconstruct the natural as well as the human historical spread of the cashew trees over the world.



Findings can be recorded on a world map to create a thematic map for the distribution of a crop. Distribution was originally based on the cashew apples and the erosion-reducing effects of the root of the plant. Cashews moved from Brazil to India and then to South-east Asia and eastern Africa, much later to western Africa.



Learners will also learn that the economic importance of cashew production in the home country of Brazil is now subordinate to that of other parts of

the world. Learners can also come to know about the global economic impact of European expansion since the late 15th century as well as of colonialism in the 19th and early 20th century. The current global picture of cashews is based on both the spatial distribution of crops as well as the economics associated with their production.

The historical spread of the cashew tree can be traced in historical reports and in the various names for 'cashew' in different languages. [WS 2](#) considers how cashews are described in most languages of the world as 'cashew' or something phonetically very similar. Some names have modified the word 'Anacardo', derived from the scientific name *Anacardium Occidentale*. Learners are asked to write the different names on a world map and to reflect on language patterns. The results and findings of this worksheet can be combined with the results of [WS 1](#) and mutually verified.

Exploring the spread of cashews strengthens analytical competence and logical thinking. In terms of global learning, global structures and historical connections are made visible and comprehensible.


1: The Cashew as a World Traveller	
 CC	<p>Groups 1 & 2: There is a simplified version of the text and the task. Learners read the text and work on the task using an atlas. They become aware of the wide-spread cultivation of the cashew tree.</p> <p>Group 3: Learners work on a simplified version of the work-sheet and task. They have to attach ten countries correctly to a map.</p> <p>There is an audio version of the full version of the text "The Cashew as a World Traveller" available.</p>
 VP	<p>Blind learners can work with the tactile world map.</p> <p>There is an audio version of the complex version of the text "The Cashew as a World Traveller" available.</p>


2: Tell Me Your Name and I Will Tell You Your Story	
 CC	<p>Learners in the class could be from various states of India. The instructor can ask the students to find out the pronunciation of cashew in their mother tongue.</p> <p>Group 1 & 2: There is simplified version of the text and the task.</p> <p>Group 3: Learners work on a shortened task.</p>
 VP	<p>The task is adapted.</p>


Material


Atlas




 World map "History"

 Simplified world map "History"

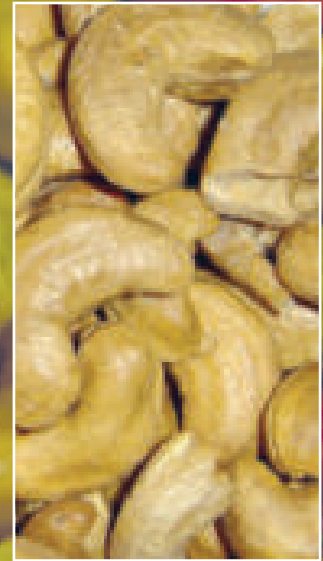
 Audio "Cashew as a World Traveller"

 Audio "Tell me your name"



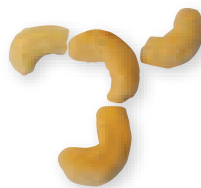
 World map "History"

 Tactile world map "History"



Cultivation, Harvesting, Processing

Big picture: © Thomas Hoffmann
Small pictures (from left)
© Thomas Hoffmann
© Eric Gaba (CCBYSA3.0)
https://commons.wikimedia.org/wiki/File:Cashew_roasting_trad_3.jpg
© Thomas Hoffmann



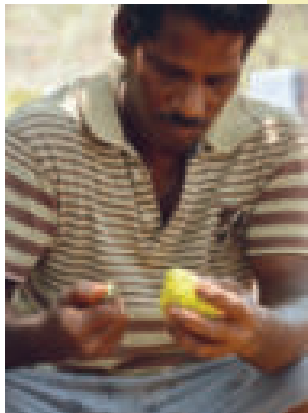
The lack of interest in the economic use of the cashew trees, the low social standing of the cashew collectors when compared to, for example, rice farmers, and the global demand for cashews, which only began around the turn of the century, are the reasons why cashews are rarely cultivated in plantations (more than 90% of cashews are grown in small-scale farming). This applies to India as well as to the cashew-producing countries of West Africa and East Africa. With the growing demand for cashews, more and more cashew trees are being planted worldwide. The trees can largely be left to themselves and require hardly any maintenance. Especially in the Indian state of Goa, but also in other parts of the country, it is often observed that large landowners sell the right to harvest their cashew yields as annual licenses to farmers. Farmers use the cashews to produce 'feni' (a brandy made from the juice of the cashew apples) and sell the shells to factories, where the cashew kernels are prepared for the national and international market.

Cultivation, harvesting and processing show a marked division of labour according to gender in most cashew-producing countries. Cashews are not harvested from the tree, but are picked up from the ground, because only the fruits that fall themselves from the tree are mature enough for their juice to be extracted and further processed. The cashew apples are separated from the cashew bowls with a simple twisting movement. The cashew apples are piled into large stone pans where they are crushed. The leaking juice is collected, left to stand in large drums, and after some time, the natural fermentation is fired to form feni.

The cashew shells are dried and sold to cashew factories. There, they are either further dried by workers on extended concrete surfaces exposed to intense sunshine to enable them to be stored or they are processed directly. In this case, depending on the factory, they are heated in small ovens or steam heaters so the



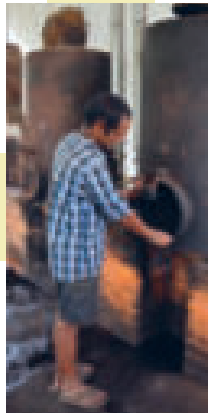
Harvesting



Separating the cashew apples from the cashew bowls



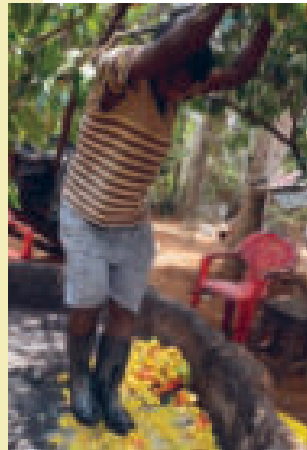
Drying



Extracting
the cashew oil



Crushing the cashew apples



shell loses its hardness and the CNSL (Cashew Nut Shell Liquid) oil can escape. In simple factories, this oil cannot be extracted, but it can be used in steam-heater installations. This oil can be processed industrially into synthetic resins and is used in the production of brake linings or clutch discs.

Next, the cashew shells are broken up by workers to reach the coveted cores. There are different technical procedures. The simplest method is to hold the cashew bowls between two toothed iron knives. Through a lever movement triggered by the foot, the two iron knives move towards each other and split the cashew shells so that the cashew kernel surrounded by a thin skin can be removed. The shells are collected and either sold to factories for extracting the remaining CNSL oil or they are used for firing the drying ovens.



Destillating feni



Below: © Jim McDougall (CC BY 2.0) www.flickr.com/photos/jimmcd/7653205906/sizes/l



Heating



Breaking up the shells

The cashew kernels themselves are dried in large hot-air ovens.

The cashew kernels still surrounded by a thin skin are peeled at long tables and sorted according to size and quality; if necessary they are salted and then packaged. Since the price of the cashew depends on its quality, the workers are prohibited from talking to each other during this work. Concentration on the work is important and broken cashew kernels should be minimised. Warehousing, sales and transport are also important parts of cashew processing.

While the harvest, the separation of cashew apple from shell, the distilling, drying and transport are all done by men, the tasks associated with the actual extraction, the peeling and sorting of the cashew kernels are reserved for women.



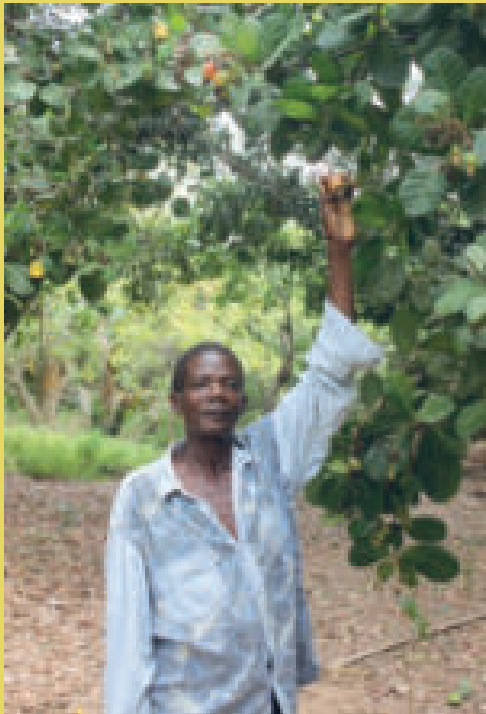
Peeling



Packing



Closing the packages



Cashew farmer with one of his trees, Ghana.

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www.flickr.com/photos/misskei/5612460660



Pape Toure's field in Diolle – Senegal 2012

Pape stands next to his two year-old cashew tree in his field. While the tree grows he can continue to grow vegetables in-between his trees.

©Trees ForTheFuture 2012
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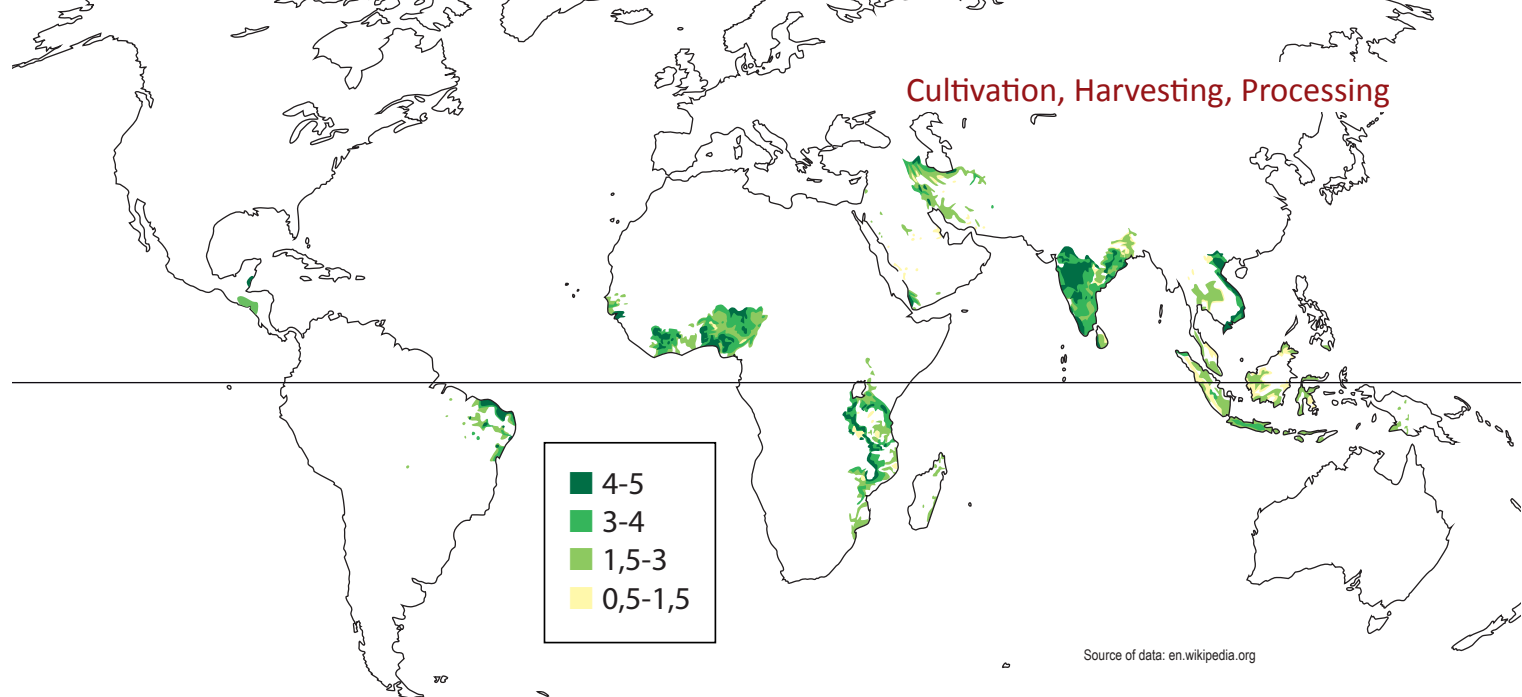
Women preparing cashews for packaging and marketing.

© Javier Mármol, CIDSE - together for global justice
Bobo Dioulasso, Burkina Faso 2007
Attribution 2.0 Generic (CC BY 2.0)
<https://www.flickr.com/photos/cidse/6220114184>



Cashew processing in Nampula province of Mozambique.

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Average yield of cashews measured in kilogram per hectare

Ideally maintained cashew tree might produce up to 15-30 kg of cashew per year. If an area of one hectare would be covered intensely of 100 trees of that quality and maintenance, the area

would show a yield of up to 3 tons per hectare and year. But in reality the density of cultivation as well as the quality of trees and their maintenance is much less. That leads to respectively lower yield per hectare and year as shown on the map.

Methodological and Didactic guide

In order to be able to make socially and ecologically responsible choices, customers buying cashews would have to be able to answer the following questions:

- 👉 Who produces the goods?
- 👉 Where were they produced?
- 👉 Under what working conditions? and
- 👉 With what consequences for society as well as for the environment?

Learners need to be able to gain insight into these realities in order to make considered choices. Studying cashews offers a wide range of perspectives on questions such as these and can contribute to the development of critical competences in learners.

Where do the cashew trees grow? Learners can research this question with the aid of **Worksheet 1** (WS) (the growth zone is essentially between latitudes 30°S and 30°N). In addition, they can continue to develop their competence in map reading by exploring the various regions where cashews are grown. From the Global Trade module, learners will see that not every country with cashew cultivation is well represented on the world market. Iran is the only country where the cashew tree is cultivated beyond the tropical area. Certain climatic conditions are necessary for the cultivation of cashew trees. This learning can be extended in the Natural Sciences module.

WS 2 reports on daily practices concerned with the cultivation of cashew trees from a peasant farmer's point of view. Here, the use of the trees is the focus.




WS 3 takes the form of an interview and gives insights into the cultivation of cashew trees in India. Learners discover why cashew trees are cultivated by peasants and not on big plantations.


WS 4 offers an insight into the processing of cashews, from factory to shop. This includes a detailed report on a guided tour of a cashew factory. Guided by the owner, Rahul, and supplemented by information of the worker, Indira, learners can either read or listen to the audio file available, about the steps necessary to process the cashews delivered by the small farmers, until they are vacuum packed and sent to other countries. The learners process this information by arranging text and images into a workable process. Learners can also be asked to develop their own information or to extend the production process using the information from a class partner.

The WS focusses on basic agricultural factors such as the production in small farms compared to those in cashew plantations, the yields per tree and area as well as whether production is subsistence or market-oriented.

The "Cultivation, Harvesting, Processing" module can be combined with the "Fair Trade" module by, for example, asking learners to identify areas which have to be improved for fair trade.

The module "Cultivation, Harvesting, Processing" thus contributes to the strengthening of professional and methodological competencies, to the ability to process information and to visualise structures and to identify unfair production methods through critical thinking.






1: Where are Cashews Grown?	
 CC	<p>Group 1: Learners work with the world map and identify the countries where cashews are grown. Learners need an orientation to the map in order to find the countries. There is a script with suggested answers.</p> <p>Group 2: Learners work with a simplified world map. A few countries are numbered to make identification easier.</p> <p>Group 3: Learners are given maps of three countries where cashews are grown. They cut out the maps and place them into a world map.</p>
 D/HoH	<p>There is no extra WS. Hearing impaired or deaf learners can also make use of the different levels of difficulty (adaptions cognitive) with a less complex wording as vocabulary development may be slower than with hearing learners.</p>
 VP	<p>Partially sighted learners: The worksheets and the maps should be printed in a large print version.</p> <p>Blind learners: The task needs to be adapted. Blind learners should work with a partner who describes the map. A tactile world map is available in the box.</p>

2: Cashew Crops	
 CC	<p>Group 1: Learners work with a simplified version of the text and the tasks. Teachers can select if they offer all three tasks to the learners.</p> <p>Group 2: Learners work with a simplified and shortened version of the text. With this text, they answer the same questions as Group 1.</p> <p>Group 3: Learners read a shortened version of the text and have to cut and arrange images in the correct order.</p> <p>There is an audio version of the complex version of the text "Cashew Crop" available.</p>






Material


Atlas







-  World map "Cultivation"
-  Simplified world map "Cultivation"
-  Pictures "How do Cashews make it into a Snack Pack?"
-  Audio "Cash Crop"
-  Audio "How do Cashews make it into a Snack Pack?"



-  World map "Cultivation"
-  Tactile world map "cultivation"
-  Simplified world map "Cultivation"
-  Pictures "Cashew – a Small Farmer's Product"
-  Pictures "How cashews make it into a snack pack?"

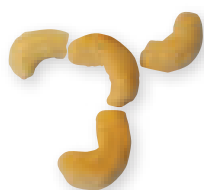
 VP	<p>Partially sighted learners: The worksheets and the maps should be printed in a large print version.</p> <p>Blind learners: There is no separate version of the worksheet. There is an audio version of the complex version of the text "Cashew Crop" available.</p>
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3: Cashew – a Small Farmer's Product	
 CC	<p>Group 1: The interview is simplified. The task focuses on the reasons for cultivation of cashew trees by small farmers.</p> <p>Group 2: The interview is shortened and simplified. After reading the text, learners mark three statements as right or wrong.</p> <p>Group 3: Learners read a shortened and simplified version of the interview. They answer questions by marking the correct pictures.</p> <p>Different steps are possible with this material: Learners only receive the text and images and must design the structure themselves.</p> <ul style="list-style-type: none"> • Learners get a finished structure, have to draw arrows, assign pictures and text. • Learners get a finished structure with arrows drawn, need only to assign pictures and text fields. <p>Make A3 print.</p> <ul style="list-style-type: none"> • Provide images in approx. A6 format (= half postcard; also available in the box) <p>There is an audio version of the complex version of the interview available.</p>
 VP	<p>Partially sighted learners: The worksheets and the maps should be printed in a large print version.</p> <p>Blind learners: The interview is available as an audio version.</p>

4: How do Cashews make it into a Snack Pack?	
 CC	<p>Group 1: The text is shortened as well as the questions.</p> <p>Group 2: The text is shortened and simplified. As a task, the learners match the text boxes with the images.</p> <p>Group 3: Learners get pictures and arrange them in a numerical order.</p> <p>There is an audio version available.</p>
 VP	<p>Partially sighted learners: The worksheets and the maps should be printed in a large print version.</p> <p>Blind learners: There is an audio version of the complex version of the text "How cashews make it into a snack pack?" available.</p>



Politics

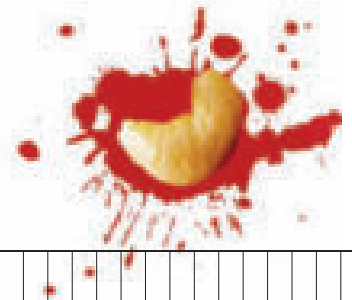


his module focuses on Development Cooperation and Human Rights issues (Fair Trade is covered in a separate module). The current international development cooperation works with the objectives of Agenda 2030 and the 17 Sustainable Development Goals (SDGs), which have been agreed on by the world community. Although launched in 2013 and not specifically targeted at the SDGs, the African Cashew Initiative (ACI), designed and implemented by the German Association for International Cooperation (GIZ), fulfills these requirements.

The initial situation of some 2.5 million West African cashew (small) farmers who contribute nearly 40% to global cashew production is characterised by low incomes, low productivity, poor quality of the products, inadequate knowledge of entrepreneurship. The lack of organisation of the peasant farmers means that less than 5% of the cashew production in West Africa is processed further on the spot.

There are also non-downstream jobs that could contribute to the reduction of widespread poverty. Consequently, the objective of the ACI project is to increase competitiveness (SDG 8), to create jobs for women (SDGs 5, 8, 10), thereby to reduce poverty sustainably (SDG 1) with yearly incomes of at least US\$ 100 and to increase the share of the processing of raw cashew kernels by at least 10% (SDG 9). This could be achieved through improving the quality of cashews, advising and educating farmers in all aspects of entrepreneurial activity, optimising business processes, borrowing, working techniques, advertising, organisation of political support and market access mechanisms (SDG 4) and (SDG 8, 9).

Even in the context of global cashew production, working conditions need to be critically considered, the justice of remuneration must be reviewed and even human rights violations have to be addressed. Between 2012 and 2015, for example, several press reports were published in Vietnam about 'Blood Cashews'.



Cashew production
of Vietnam in tons
1961–2014.

A Human Rights Watch study showed how drug addicts were forced into cashew production in Vietnamese rehabilitation camps, which could explain Vietnam's economic success in the cashew world market. Prisoners receive a much lower wage, less than the minimum wage limit. They are also bound to a minimum rate of production per day: 4800 cashew kernels peeled per day, which can only be achieved if a cashew core is peeled for eight hours every six seconds. The peeling of the cores by hand generally leads to better quality than previous attempts to automate this step.

On the whole, the labour-intensive production of Vietnamese cashews means they can be offered on the world market on a much more favourable basis than in some competing countries, for example India, despite gradual advancing automation. These political conditions explain the rapid rise of Vietnam to become the world's leading cashew producer as well as the rapid slump in production after this practice became internationally known with various customer consequences.



Report of the Human Rights
Watch on cashew-production in
Vietnamese prisons



© Human Rights Watch

Methodological and Didactic guide

The production of agricultural products, the extraction of ores and other raw materials, the production of industrial goods and the provision of services are always associated with the need for political organisation and design. This applies to copper and oil as well as to wheat, corn, cars, machinery and also to cashews. Within the framework of this module, learners recognise that the framework conditions of production can be a reflection of the developmental stage and are at the same time the starting point of development policy objectives.




Learners are confronted with the question of whether the cashew tree is a Tree of Poverty or Tree of Wealth – [Worksheet 1](#) (WS). Following the methodical approach of “Think, pair, share”, the learners first note their individual thoughts on this difficult question. In doing so, they have the opportunity to inform themselves and orient themselves on the basis of thematic statements. Following this individual process, an exchange takes place among partners or in a group. Learners must present their own position in an argumentative manner, but also examine it and, if necessary, revise it.




Building on the debate about poverty and wealth in the context of cashew production, global political issues of the future can be introduced to learners. Agenda 2030, which came into force on 1 January 2016 and its 17 sustainable development goals (SDGs) plays a decisive role. With the help of the [WS 2](#) and [WS 3](#) the learners will become familiar with Agenda 2030 as the global consensus regarding sustainable development over the next 15 years. For this purpose, they check statements for correctness by means of an introductory text. They are also asked to formulate their own statements and to submit them to their learning partners for review. This step also strengthens individual competency development at different requirement levels: explanation and evaluation.




Equipped with basic knowledge about the emergence, structuring and organisation of the SDGs, the students now learn about the SDGs in more detail with the help of [WS 3](#). Working with the three elements of the logo, a short explanatory text and detail in pictures, they need to deal with the information in a reflective and argumentative way and justify their




decisions. They learn about the development project, the African Cashew Initiative (ACI) ([WS 4](#)) currently being implemented by the German Society for International Cooperation. In terms of Education for Sustainable Development, the focus is on strengthening the competence to consider perspectives of others and to look at what is familiar from a different perspective. They take the perspective of a cashew farmer and try to evaluate the development project. Then they need to evaluate the same project from the perspective of the United Nations in the context of SDGs.



[WS 5](#) and [WS 6](#) address a particular aspect of the global cashew trade, the so-called ‘Blood Cashew’, already mentioned in the Global Trade module. Through the worksheets, the learners strengthen their analytical abilities, critical thinking and creativity. They need to comment on and evaluate an article on Blood Cashews for a youth magazine *Global Justice* and they are asked to evaluate the reports and the analysis of human rights organisations. Learners will use graphs and diagrams for better visualisation of information.

1: Cashew – Tree of Poverty or Tree of Wealth?	
 CC	Groups 1,2 & 3: Learners work in pairs. They reflect on the statement. The learners should be provided with paper of A3 or A4 size. Learners cut each statement and glue it in the appropriate column in the placemat. For learners who face a difficulty in cutting, if possible, a perforated line can be drawn after every statement.
 D/HoH	During the presentations of the results, it is important that deaf learners can look at the placemat. For this reason, a gallery walk could be a good solution.
 VP	Partially sighted learners need the worksheets and the graphs in a large print.

2: From the MDGs to the SDGs	
 CC	Groups 1 & 2: The text is simplified and the learners use the text to mark statements as true or false. Group 3: Learners get to know the MDGs and the SDGs. They match the cards of the MDGs and SDGs on the board. There is an audio version of the complex version of the text “From the MDGs to the SDGs”.
 D/HoH	Due to communication restrictions, they might not have the same vocabulary as hearing learners. If the texts are too complex, deaf learners can use the simplified version of the cognitive adoptions.
 VP	There is an audio version of the complex version of the text “From the MDGs to the SDGs”.

3: The Sustainable Development Goals or SDGs	
 CC	Groups 1 & 2: Learners consider the 17 SDGs. Then they match the images of the SDGs in column A with the corresponding sentences in column B. As a second task, they describe the Hidden Object and assign the SDGs to individual scenes in the picture. Group 3: Learners have only five images in column A and match them to the corresponding terms in column B. As a second task, they describe the Hidden Object. Learners get separated individual scenes of the Hidden Object and assign the SDGs to those scenes.
 D/HoH	Due to communication restrictions, they might not have the same vocabulary as hearing learners. If the texts are too complex, deaf learners can use the simplified version of the cognitive adoptions.
 VP	Tactile SDG-Symbols are available in the box.

4: The African Cashew Initiative (ACI) – A Good Development Project?	
 CC	Groups 1 & 2: The text and the task are shortened and simplified. Learners should read together in class and talk about it. Learners become familiar with the advantages of membership in this initiatives and make connections with the SDGs. There is also the possibility to simplify the text again by reducing the reasons, aims and strategies. Group 3: If the text is too complex, learners copy two images of SDGs and join the dots to write the words. There is an audio version of the complex version of the text “The “African Cashew Initiative” (ACI) – A Good Development Project?”
 D/HoH	Due to communication restrictions, they might not have the same vocabulary as hearing learners. If the texts are too complex, deaf learners can use the simplified version of the cognitive adoptions.
 VP	There is an audio version of the complex version of the text “The “African Cashew Initiative” (ACI) – A Good Development Project?”.

5: ‘Blood Cashew’ – What does this mean?	
 CC	Group 1: Learners are asked to write an article for a youth magazine. Learners first read the ‘The Rehab Archipelago’. Group 2: Learners have a shortened and simplified version of the article ‘The Rehab Archipelago. They read the text and underline the keywords. They then write five sentences. Group 3: Learners have to produce their own newspaper. They make a collage by copying one of the newspaper names and using some pictures. They show their newspaper to the class. There is an audio version of the complex version of the newspaper article “The Rehab Archipelago” available.
 VP	There is an audio version of the complex version of the newspaper article “The Rehab Archipelago”.

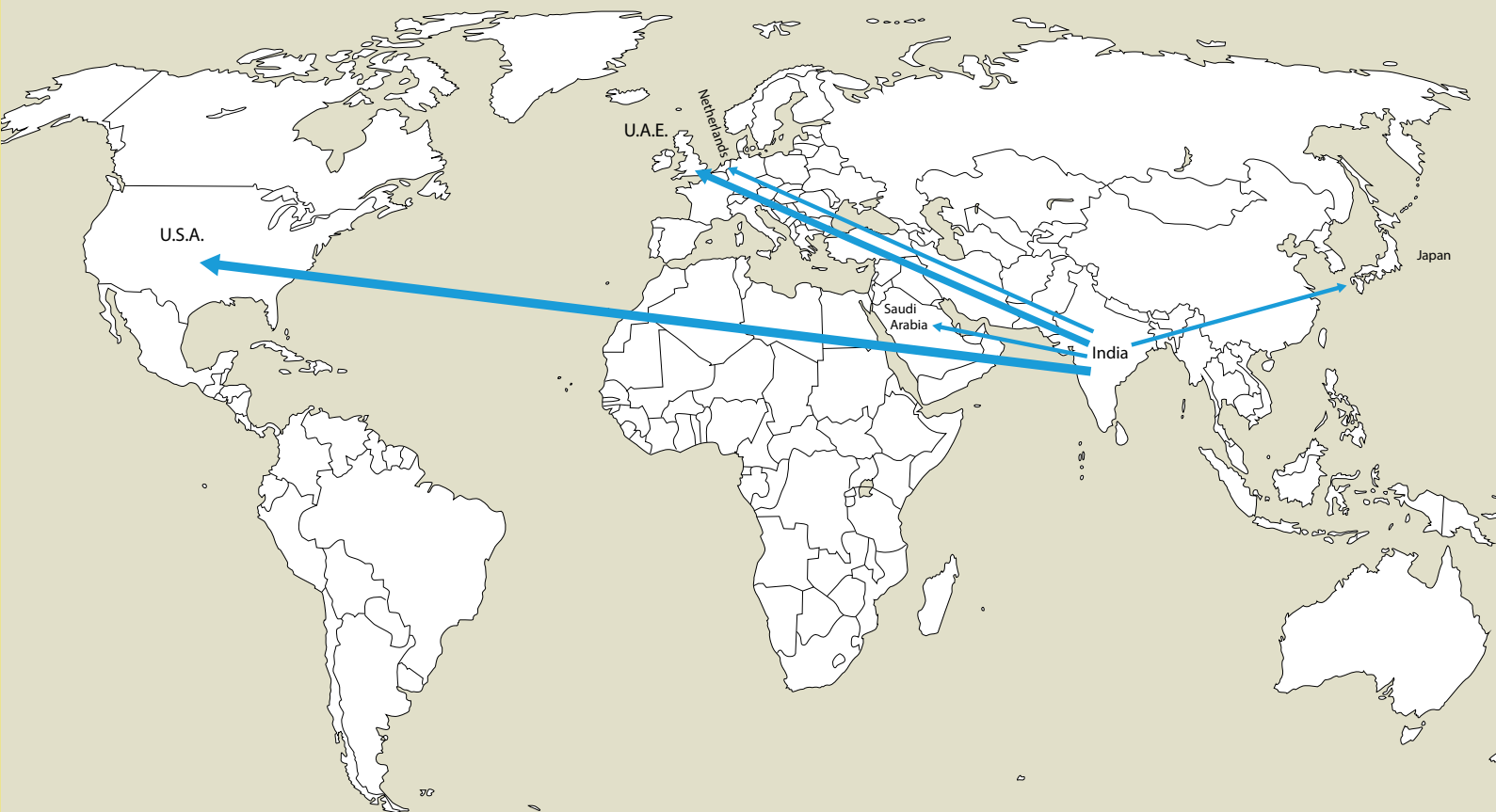
Material



- 🔊 Audio “From the MDGs to the SDGs”.
- 🔊 Audio “The African Cashew Initiative”
- 📄 “(ACI) – A Good Development Project?”
- 📄 17 SDGs
- 📄 Simplified versions of the texts
- 🔊 Audio “The Rehab Archipelago” available.
- 📄 Hidden Object



- 📄 Tactile SDG-Symbols
- 📄 Hidden Object



India's export of cashew kernels
(top 5 destinations)
in thousand tons

Countries	2011-12	2012-13	2013-14
U.S.A	47611	33898	30106
U.A.E	14173	17 437	13625
Netherlands	11515	9934	8589
Saudi Arabia	5135	7195	5862
Japan	7055	6703	6370
Others	45379	39 937	35553
Total	130869	115104	100105

Source: Cashew Board, India

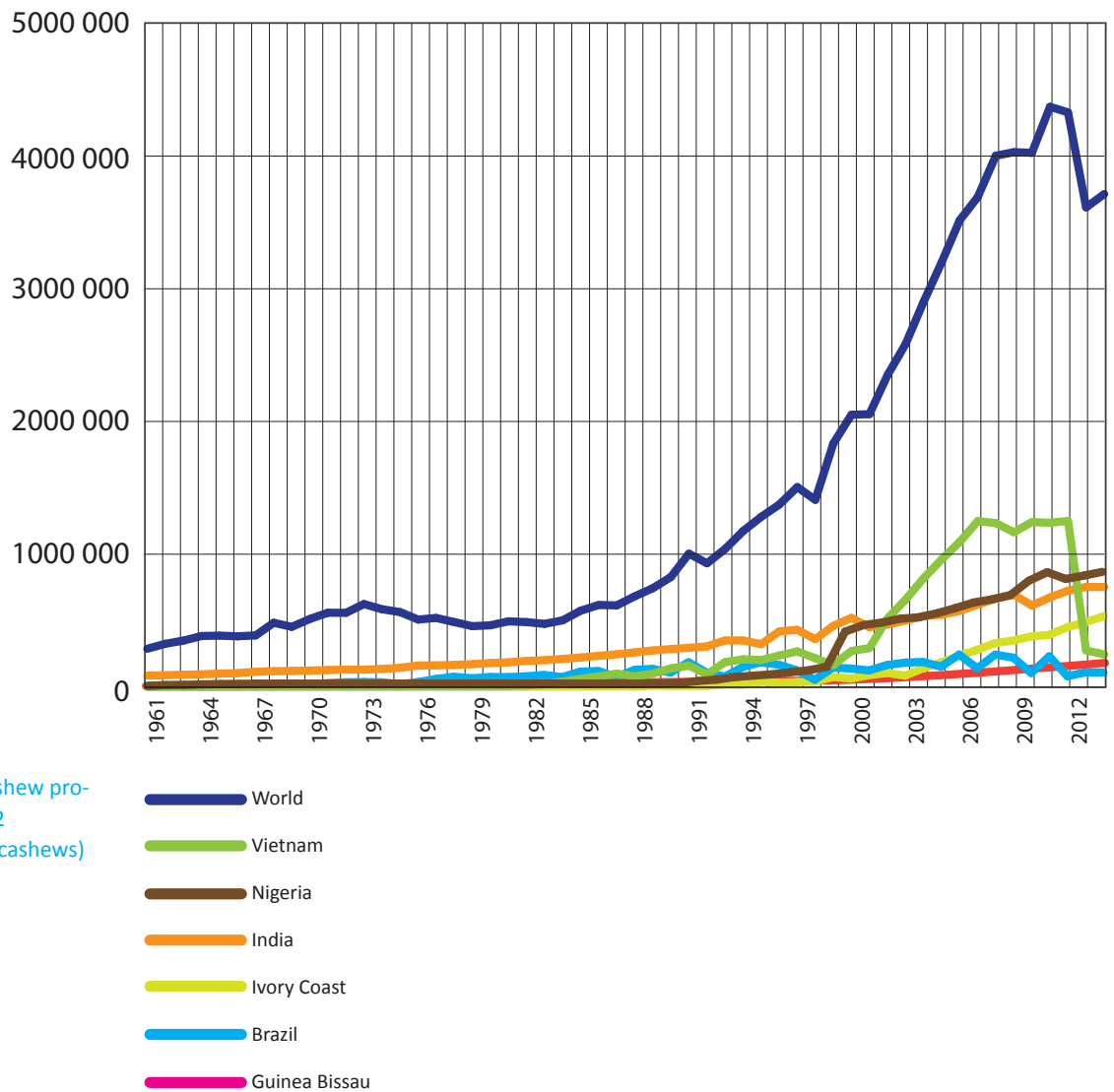
World Trade



For a quarter of a century, between 1961 and 1985, the worldwide production of cashew shells was between 25 000 and 60 000 tonnes, with India being the most important country of production ever since, contributing about a quarter to this total global production. In the second half of the 1980s, and continuing until the turn of the millennium, a significant increase in annual production began, which rose to 200 000 tonnes by 2000. India continued to expand its production at this stage, without any increase in worldwide production. Brazil and Vietnam were clearly visible as cashew producers, whose annual production reached a maximum of half the Indian contribution. The real and ongoing boom in global cashew production only started after the turn of the century. If the annual production at this time amounted to 200 000 tonnes, it doubled to 400 000 tonnes in only seven years and then further increased to 435 000 tonnes by 2010.

The traditional cashew market changed with India losing its decade-long dominance despite further continuous production growth to about 75 000 tonnes. Instead, Nigeria, the Ivory Coast and Vietnam have developed into the world's leading cashew producing countries. For example, Vietnam has quintupled its production of 25 000 tonnes in 2000 within six years, reaching a production level of 125 000 tonnes per year, although this slumped again after 2012. The reasons for this rapid rise and collapse are presented in the Politics module.

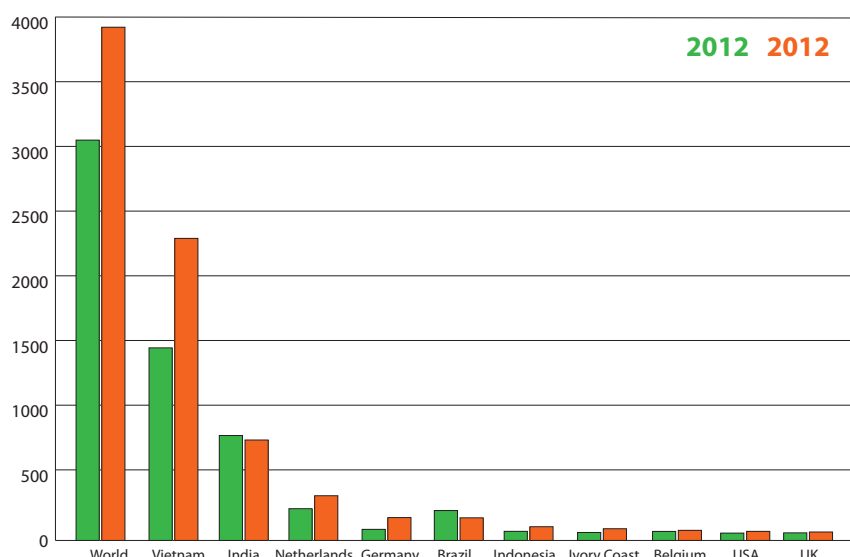
This extreme rise in global cashew production can only be explained by the corresponding increase in demand. India, the largest national cashew market in the world, has tripled its population between 1960 (450 million people) and 2015 (1.3 billion people) and cashews or 'caju' are part of many dishes in traditional Indian cuisine. Added to this is the increasing growth of the middle classes in China, which has also been observed for some years in India, as a result of the globalisation



process. In India, 10% of the world's middle class is already living, which is roughly the same as in Japan, with a projected strong upward trend. This phenomenon is accompanied by a change in the way of life, and food habits are also changing, which in turn are increasingly oriented towards those of Western societies. In these countries, over the past few decades, a tripling of television consumption has been seen in the past decades from about 70 minutes/day in 1964 to 220 minutes/day at present, with the actual rise only since the second half of the 1980s.

In addition, there is an average of a further average of one and a half hours of Internet use. This drastically changing pattern of consumption is accompanied by an increasing consumption of snacks, including cashews. In the context of these developments and the relatively high-priced cashew market, demand has risen sharply in the past 25 years which has led to the increase in production shown. Also, countries with a low market presence are much more involved than in the past, such as Guinea Bissau, Brazil, South Africa and are keen to find a way to participate in this boom. Traditional exporters, such as India or Vietnam, now also import, process and export raw cashews.

The main importers are North America, the European Union, the Arabian Peninsula and Japan. Import structures are highly diversified. For example, Germany imports from more than 20 countries, particularly Vietnam, Honduras and India.



Exporters	Exported value in million US-\$		Growth rate (%)	Share (%)
	2012	2016	2012 & 16	2016
World	3048.8	3921.1	28.6	
Vietnam	1443.1	2289.2	58.6	58.4
India	765.6	731.0	-4.5	18.6
Netherlands	200.2	300.3	50.0	7.7
Germany	40.3	131.4	226.1	3.4
Brazil	185.7	129.6	-30.2	3.3
Indonesia	25.0	60.9	144.1	1.6
Ivory Coast	16.2	45.3	179.4	1.2
Belgium	24.3	32.7	34.8	0.8
USA	11.3	24.8	118.7	0.6
UK	13.3	19.9	49.7	0.5

Source: Trade Map (2017)

World's leading growers
and exporters of cashew

Methodological and Didactic guide




Our everyday life is characterised by products and services that reach us from all over the world and which we find over the internet. To be able to deal responsibly in the context of a globalised economy, learners first learn where different products come from and then how they were produced. Within the framework of this module, the main focus is to provide an overview of the countries of origin of the cashew imported. **Worksheet 1** (WS) therefore requires learners to orient themselves on the import volumes of the year 2015 and the countries of origin, based on given statistics, and to draw up trade relations accordingly on a world map. Learners can make comparisons with their results from the Botany module worksheets. They also learn how to graphically illustrate their findings by using arrows of varying strength on their world maps.



Considering the current situation always opens up consideration of development so far. **WS 2** considers the most important cashew importing countries over the last 15 years. Learners should develop both a solid basic knowledge as well as the ability to read graphics and to consider the importance of a range of suppliers over one main supplier.


In **WS 3**, another aspect will be taken into consideration in the global cashew trade. Learners need to consider which countries have the largest share in this rapidly growing market over the last fifteen years. They need to read graphs, identify particular developments as well as stimulate critical thinking skills.



With the final **WS 4**, a first awareness of cashew-related global economic participation and interdependence of the four countries of India, Mexico, South Africa and Germany can be created by placing the picture elements into a table. This can then be the basis for a discussion on cashew world trade.

Within the framework of the World Trade module, learners develop orientation skills, competences for reading non-continuous texts as well as for dealing with complexity and critical thinking.

1: Which Countries are Cashews from?	
 CC	Groups 1 & 2: Learners study the table of world's leading growers and traders who export cashews. They then circle the countries of delivery on the map. <hr/> Group 3: Learners use a simplified version of the table and circle the countries of delivery on the map.
 D/HoH	There is no extra worksheet. Learners hard of hearing or deaf learners can also make use of the different levels of difficulty (adaptions cognitive) with less complex wording. Due to restricted communication, they might not have the same vocabulary as hearing learners.
 VP	Partially sighted learners Learners work with a A3 copy of the world map. Another resource that can be used is Google maps. <hr/> Blind learners Learners can use a tactile world map (in the box). The task has been adapted for blind learners.

2: From which Countries do Cashews come to South Africa?	
 CC	Groups 1 & 2: Learners study the graph and mark the statements as right or wrong. <hr/> Group 3: The graph is simplified in only two sections: 1. Vietnam, 2. Mozambique, India, Brazil. Learners colour the graph and answer two questions.
 D/HoH	There is no extra worksheet. Hard of hearing learners and deaf learners can also make use of the different levels of difficulty (adaptions cognitive) with less complex wording. Due to restricted communication, they might not have the same vocabulary as hearing learners.

3: Development of the Cashew Production	
 CC	Groups 1 & 2: Learners focus only on the graph of the world production of cashews and answer the questions.

4: India, Mexico, South Africa and Germany in the Cashew World Trade	
 CC	Groups 1 & 2: Learners attach the words to the images.
 VP	Partially sighted learners The task has been adapted. Instead of pictures, words are used.

Material



- World map "World Trade"
- Diagram "Development of Cashew Production"
- Pictures for matching "Global Cashew Trade"



- World map "World Trade"
- Tactile "World Map"
- Diagram "Development of Cashew Production"
- Pictures for matching "Global Cashew Trade"



Fair Trade

Fair Trade ensures a fair return for small producers' labour. It enables a respectable livelihood, creates a balanced relationship between producers and businesses, reduces environmental degradation, provides safe workplaces and ultimately enables a sustainable, just society. Due to unfair international trade rules, the returns of farmers are lowered to such a level that they can neither support their daily needs nor cover production costs. Fair Trade ensures that farmers and producers are able to earn decent incomes, ensuring their ability to support themselves and their families, and to sustain production. Fairtrade labelling (usually simply Fairtrade or Fair Trade Certified in the United States) is a certification system designed to allow consumers to identify goods which meet agreed standards.



Fair trade focuses on agricultural and (art) craft products, which are generally traded from countries in the South to industrialised countries in the North. Farmers or artisans are usually given the smallest part of the sales proceeds – the concept of fair trade attempts to address this injustice. Fair trade products, which are more expensive than conventional products, appeal to the integrity of the buyer. Worldwide, more than 1.6 million people in more than 1200 co-operative producer groups are registered “Fairtrade”. They operate according to the regulations of the umbrella organisation “Fairtrade Labelling Organisations International”. About two-thirds of these organisations are based in Africa and the Middle East, one-fifth in Latin America and slightly more than one-tenth in Asia. About a third of the Fairtrade certified organisations are investing premiums in increasing the productivity and quality of their products. Fairtrade organises farms of about 1.4 hectares and sells slightly more than half of their crops under fair-trade conditions; in the 2013/14 period the producers received revenues of € 951 million. Traditional fair trade products are approximately half of coffee, followed by bananas, cocoa, sugar cane, flowers, tea and cotton.

Nuts and cashew are also fairly traded, but are only a marginal product compared to classic fair trade items. There is little information on the partners in the global cashew trade but it can be assumed that the percentages are roughly equivalent. The Fairtrade approach is based on the dual strategy of consulting and the continuous, controlled allocation of a seal to all actors involved in production, trade and consumption. At the same time, special attention is given to the representation, advice and support of producers as the weakest link in this chain, to strengthen their position. To this end, the umbrella organisation of national Fairtrade organisations acts on behalf of civil society (consumers) and smallholder organisations, representing and articulating the interests of the peasants (producers).

Methodological and Didactic Guide

In the context of Education for Sustainable Development (ESD), learning processes cannot remain at the level of recognition and evaluation but must involve the level of action. This presupposes that sufficient knowledge has been gained and understanding has been developed as to how global economic interdependencies work, the opportunities and risks they bear, the injustices inherent in their trade relations and how they can be overcome. This inevitably leads to the approach of Fair Trade, which also includes cashews.

On the basis of the [Worksheet 1](#) (WS), the learners learn about Fair Trade from the perspective of a cashew farmer by first describing the Fair Trade objectives in the specific context of the cashew farmers. The second step develops competence to change perspective and to develop empathy with the challenges of farmers in making a living.






On the basis of the [WS 2](#), these insights into the economic reality are deepened by focusing on

approximations of the distribution of sales from the cashew trade.

While calculations of this type are available for cocoa, coffee and bananas, detailed sales and profit analyses are not available for cashew trading. Nevertheless, the learners can use an approximation to develop an idea of the fairness-oriented design of the Fair Trade approach and to explore the consequences for the producers ([WS 4](#)).

Learners discuss aspects relating to fair or unfair trade in cashews by means of [WS 4](#) and a final evaluation is called for.

Since the formulated circumstances cannot be assessed clearly and certainly not immediately as „fair“ or „unfair“, learners need to give sufficient reasons for their arguments. In this way, learners expand their reasoning skills as well as their critical thinking, and are required to formulate their own creativity in combination with the acquired knowledge.

1: What does "Fair Trade" really mean?	
 CC	Groups 1 & 2: Both groups receive the same text, but different tasks. The text has been simplified. Learners explore the meaning of "Fair Trade" and answer questions about it (choosing between two answers). Group 3: Learners get to know the most important Fair Trade standards. As a task, they recognise and distinguish between fair trade labels and other labels.
2: What does Fair Trade mean for Cashew Farmers?	
 CC	Groups 1 & 2: If group participation is too complex for the learners, there is an alternative task. Learners design packaging material for fair trade cashews. They are given important details for the packaging. After designing, learners can add advantages and disadvantages. Group 3: Additional to the written packaging details, learners get images to use for the packaging.
 VP	There is an audio version of the text "Fair Trade – success or failure".
3: Who gets how much?	
 CC	WS 3 can be left out if calculation tasks are too complex.
4: Fair or Unfair?	
 CC	Groups 1 & 2: Learners rate four statements as fair or unfair. Group 3: Learners mark four images as fair or unfair.

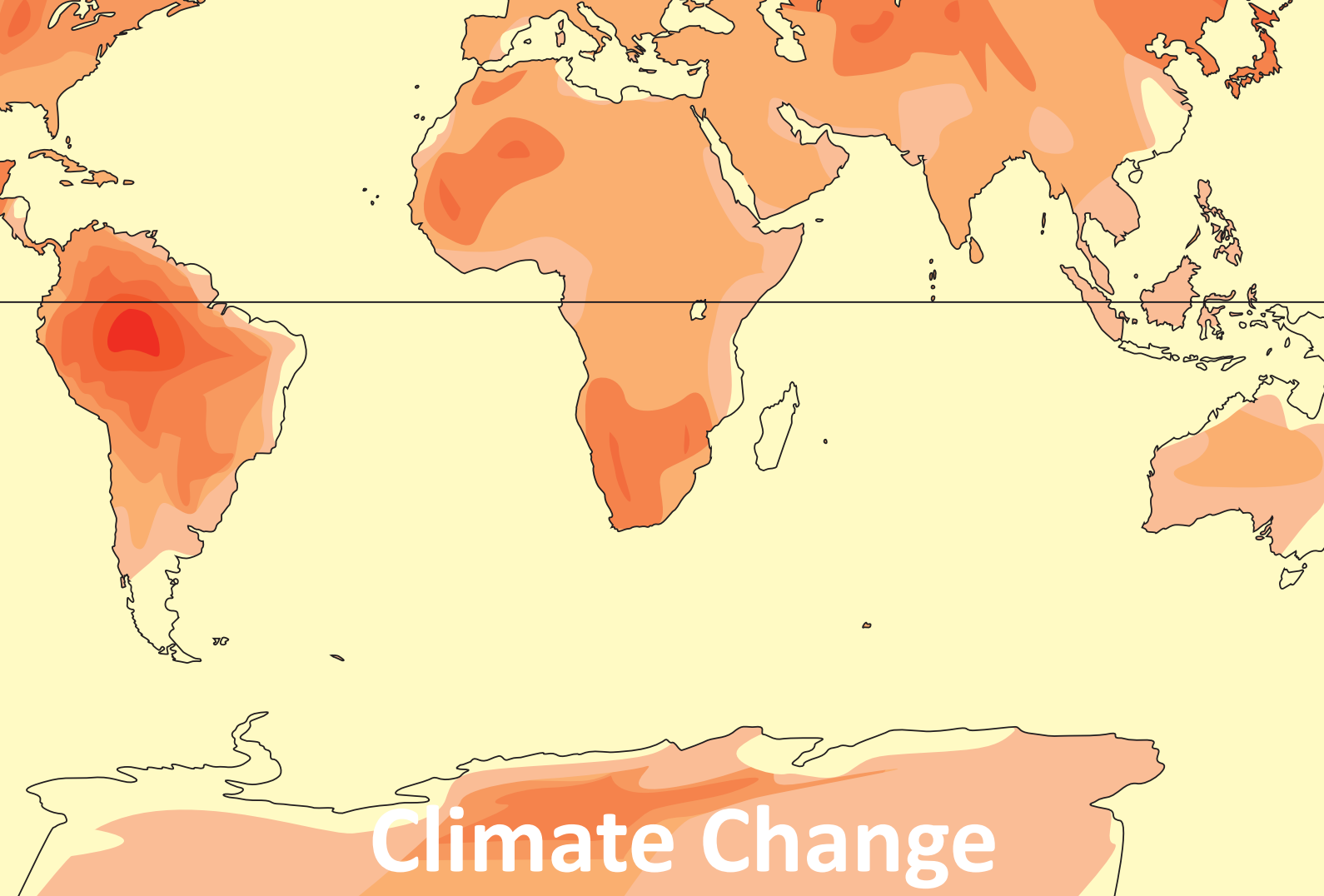
Material



- Pictures "fair/unfair"
- Simplified text "What does Fair Trade really mean?"



- Tactile labels
- Pictures "fair/unfair"



limate change is the most profound global challenge of our time and the 21st century that lies ahead. The extent to which the temperatures and the precipitation in the different regions will change will differ. Vegetation is directly affected by climatic changes which includes the cultivation of useful plants. It is notable that winegrowers in the south of Germany are already cultivating grape varieties from the Mediterranean region because of increased temperatures that have been brought about by regional warming.

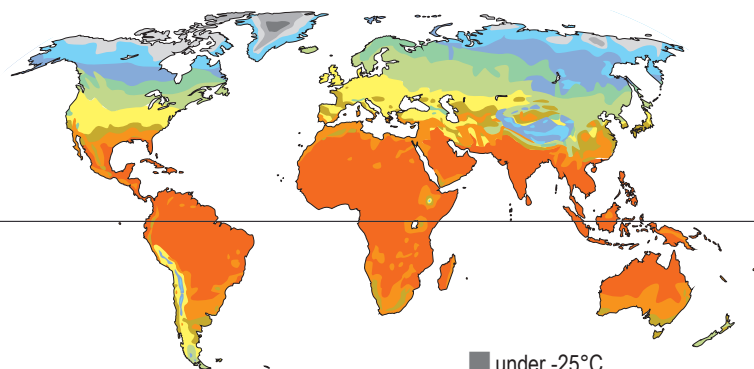
These developments and options for action are, in principle, to be included in planning and future-oriented decision-making. This also applies to the worldwide cultivation of cashews. Against this background, the current climate modeling scenarios for the coming decades must be used to estimate whether the planting of cashew seedlings is ecologically and economically feasible in view of the expected changes in the two central climate elements, temperature and rainfall.

Cashew trees can tolerate a range of temperatures and precipitation and are therefore relatively immune to expected changes in climatic conditions, though harvest size could be affected. Further investment in cashew production, therefore, needs to be considered in the light of expected climatic changes. This will also play a role in the identification of areas for the extension of cashew cultivation, such as South Africa.

Climate Change and its Effect on Cashew Plantation

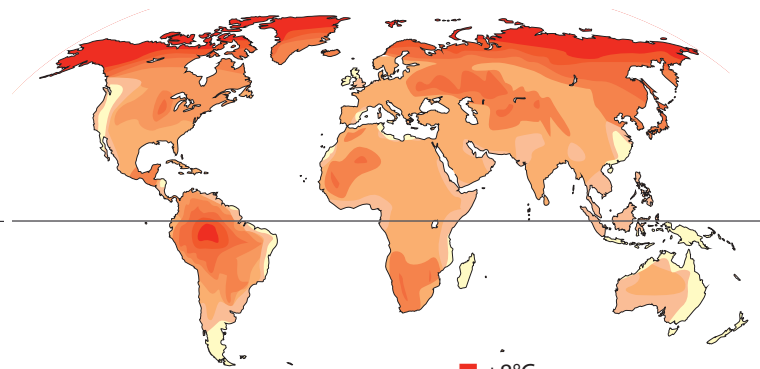
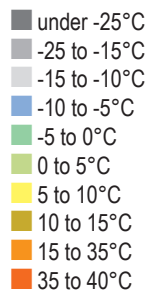
Cashew is cultivated in varied climate and different type of soil in various parts of India. Hot, humid tropical condition in summer with day temperature 30-38°C and humidity of more than 50% is needed for its cultivation. Its production is affected by soil fertility and climatic condition like poor distribution of rains, increase in

temperature and violent winds. Poor rains and increase temperature with violent winds reduces the productivity of cashews which results into drying of flowers, falling of the leaves and immature fruits. Cashew plantation are very much sensitive to climatic changes. High temperature ($>34.4^{\circ}\text{C}$) and low relative humidity ($<20\%$) causes drying of flowers and gives low yield. Unseasonal rain and heavy dew during flowering and fruit period leads to pest attack and disease. In cashew plantation rainfall between 1000 to 2000mm is needed for a good crop.



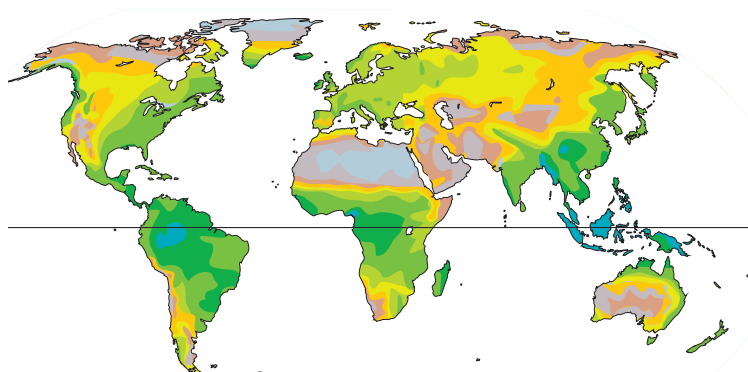
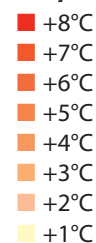
**Annual mean temperature
1980 – 2010**

Source of data: www.climate-charts.com/images/world-temperature-map.png
Graphic: bezev



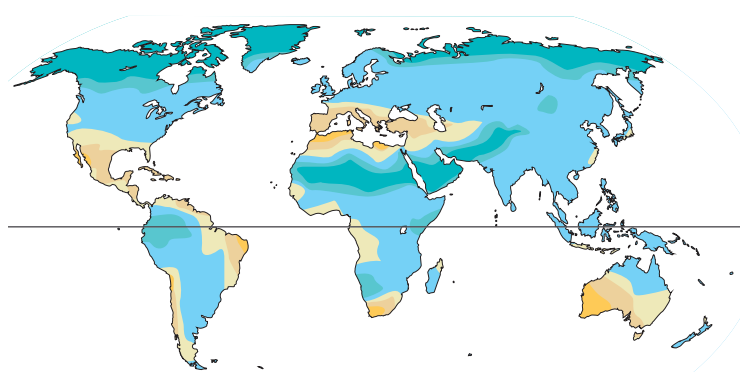
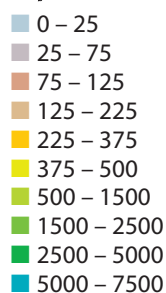
**Global warming 2070 – 2100,
calculation against the average
of the years 1960–1990**

Source of data: https://de.wikipedia.org/wiki/Folgen_der_globalen_Erw%C3%A4rmung#/media/File:Global_Warming_Predictions_Map_2_German.png
Graphic: bezev



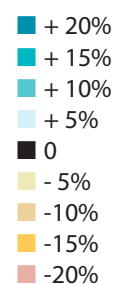
**Medium amount of precipitation,
for example rain, measured in
the years 1980–2010**

Source of data: www.climate-charts.com/images/world-rainfall-map.png
Graphic: bezev

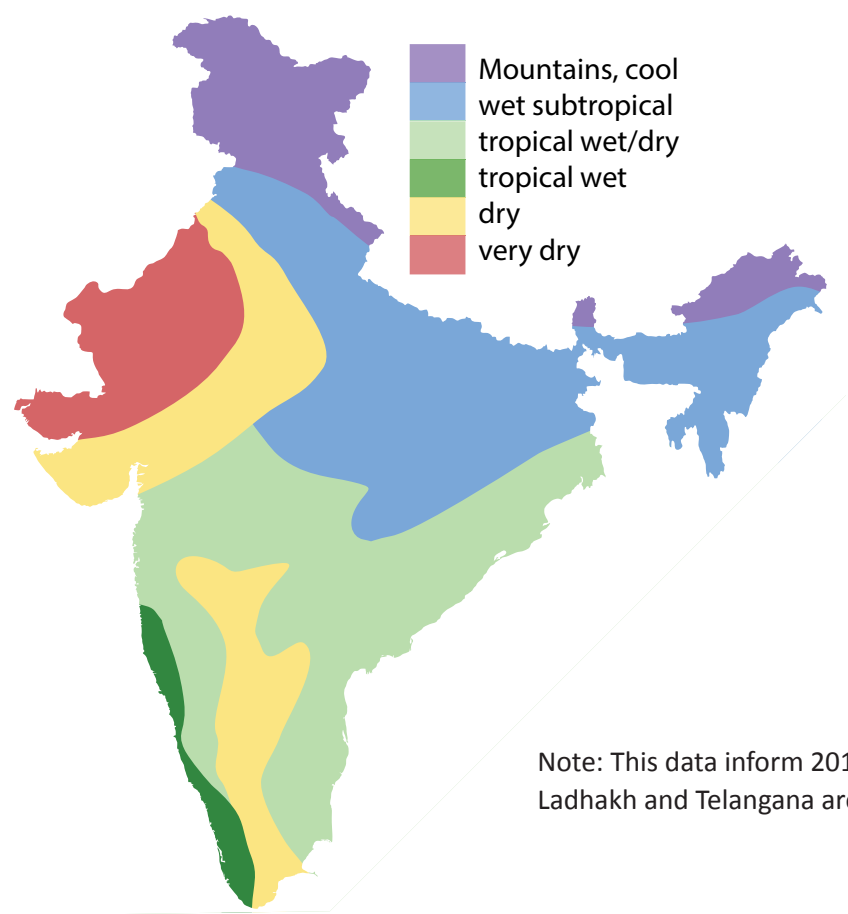
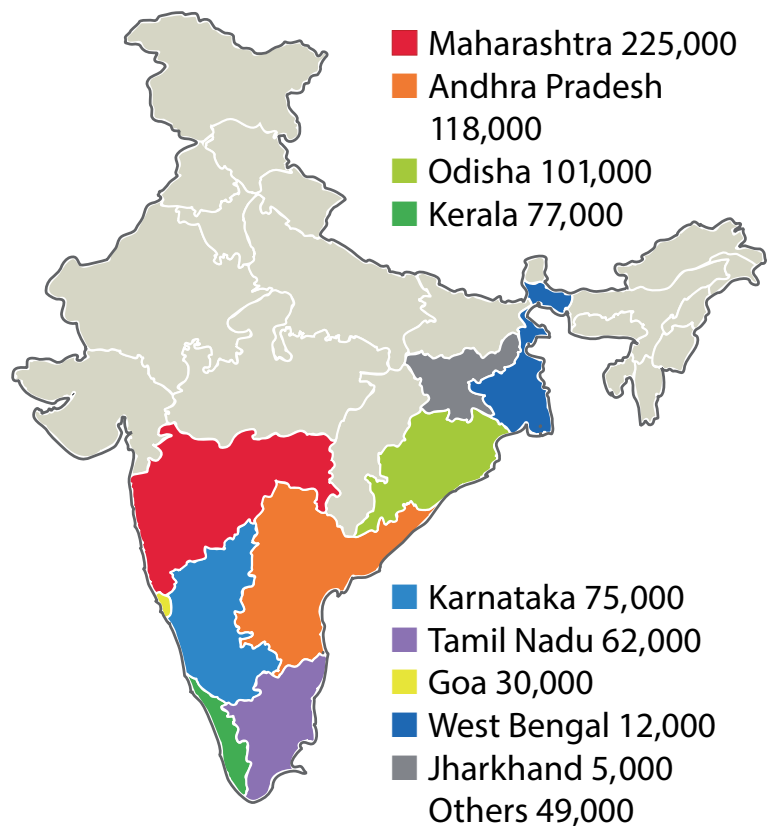


Precipitation change until 2100

Source of data: <http://bildungsserver.hamburg.de/contentblob/2079802/0deb0252c6224a628f1b9f42f05accbb/data/niederschlagsszenarien-geographisch.jpg>
Graphic: bezev



Most important Regions of Cashew Cultivation
in India 2012–2013 in Tonnes



Note: This data inform 2012-13 hence
Ladhakh and Telangana are not shown.

Methodological and Didactic guide

Current global change is linked in many ways to the current patterns of climate change. Climatic interactions will become more pressing in the coming decades and will also be particularly significant in current areas of agricultural production.







Against this background of change and risk, learners need to be able to recognise the importance of climatic conditions for successful cultivation of food. Within the scope of this module they will be challenged to explore how climate change could affect the global cashew economy.

In a task informed by real situations and climate change data, learners are given the role of young development experts who have the task of assessing the future conditions for the cultivation of cashew trees – **Worksheet 1** (WS). These findings are then used to recommend whether cashew farmers of

selected countries should continue to grow cashew trees. In groups, the aspects of current and future temperature and rainfall conditions as well as the ecological prerequisites for the trees to thrive are analysed and evaluated using thematic maps.

Finally, **WS 2** opens up a link to the South African narrative/perspective in the Mystery Module. On the basis of **WS 2**, learners can now examine the extent to which these visions can be assessed realistically by naming concrete spaces and taking into account the anticipated changes in the ecological framework conditions in their analysis.

By working on the climate change worksheets, the analytical competence of the learners as well as their ability to anticipate and their judgment competency are promoted.

1: Climate Change – Danger for Cashews?		2: South Africa – Cashew Land of the Future?	
 CC	<p>Groups 1 & 2: Learners can circle the correct answers to the tasks. They have less materials for solving, for example there is only one world map.</p> <p>Group 3: Learners have to colour the countries Brazil, Nigeria and India. They learn that cashews grow in these countries.</p>	 CC	<p>Groups 1 & 2: The task is simplified. Learners only have one map of South Africa to solve the task.</p>
 D/HoH	They work in small groups or in pairs is very suitable for hard of hearing learners. It is important to ensure that learners can also work in other rooms with less people in order to reduce the noise volume and strengthen their working abilities.	 D/HoH	For presentation of results, it is advisable to support the spoken word with forms of visualisations (for example, a gallery walk) for hard-of hearing learners.
 VP	The worksheet and the maps are available in large print on the DVD-ROM.	 VP	The worksheet and the maps are available in large print on the DVD-ROM.

Material



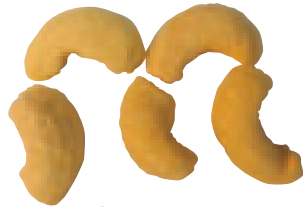
- Puzzle South Africa
- World map "Temperatures"
- World map "Precipitation"



- World map "Temperatures"
- World map "Precipitation"
- Puzzle "South Africa – Cashew Land of the Future?"



Mystery



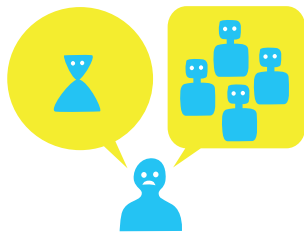
mystery – The competence-oriented Mystery Method was developed in England as part of the 'Thinking through Geography' approach that aims to develop the ability of learners to grasp, structure and deliberate complex facts with greater autonomy. Learners are presented with narrative strings of a complex history as a mystery to be resolved. These opening narrative strings are partial and incompatible yet related. In this way, complexities are presented as mysteries to be explored and deliberated.

To support the learners to grasp and deliberate complexity (mystery), they receive a set of about 20 to 25 information cards. Each of these present differing aspects of complex and often contradictory facts to be placed in a logical sequence through group work (ideally 4-6 learners). The methodical approach requires a very active, communicative and argumentative approach.

This experience is intended to strengthen their capacity to deliberate contradictory perspectives and develop competences in the professional, communicative and social fields.



Stereotypes and Prejudices

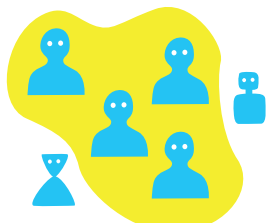


What is a prejudice??

Prejudices are hasty rendered judgments or opinions that people have about other people, a group of people or a situation made without rechecking these judgments or opinions. Prejudices have little relation to someone's own experiences.

Prejudices are always connected with feelings, mostly negative feelings, against those people/ this group of people/ this situation.

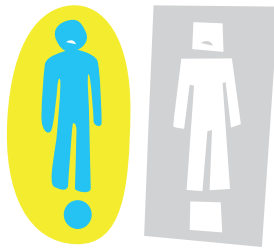
Because of this connection between prejudices and feelings, it is complicated to remove them.



What is the role of prejudices??

The use of prejudices makes it easy for people to orient themselves in their environment and in contact with other people. For example, by using different prejudices, people can categorise new persons or new situations.

Prejudices create social affiliation to a group of people or a society.

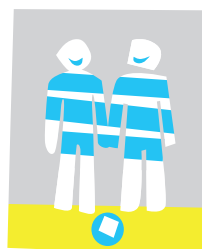


Example

Sam thinks that a lot of people have the same prejudices as he has. Therefore, he feels like being a part of this group of people with these prejudices. The outcome of this is a corporate feeling. At the same time, Sam and his group establish a border between themselves and the people/group of people they have prejudices against.

Prejudices define a distance to other people or situations. People disallow physical or social closeness and don't want to confront themselves and their perception of the world with the unknown. The correctness of one's own opinion about the world is thus not a subject of flexibility.

Back to the example: Sam likes playing football. Friends of Sam told him that the two new young siblings in the neighbourhood are unfriendly because they don't want to play football. Sam believes his friends although neither he nor his friends ever asked the two youngsters why they don't play football. Sam doesn't say anything and avoids dealing with them. In secret, he imagines the two youngsters do another kind of sport, that he could enjoy as well or maybe even more than football. He is afraid of losing his friends if he got to know the other two.

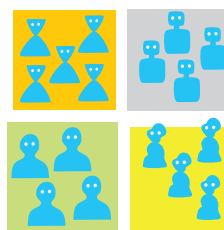


It depends on the social context in which someone grows up, how this person values or judges other persons or situations.

Reduction of prejudices

Prejudices can be reduced or avoided when people/groups of people get to know each other and, for example, work together for one aim.

Getting to know each other and being reliant on other group members creates new connections and new knowledge. In the end, it leads to a re-evaluation of the people/ group of people one had prejudices against.



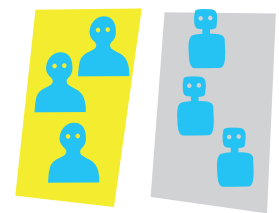
Difference between prejudice

Stereotypes help people to orientate themselves in the world. They make it easier to deal with situations, people and groups of people by characterising and categorising them.

For example, the definition of a group of people can be variable. Stereotypes can be linked to: ethnic groupings, nationality, social status, political attitude, religious

conviction, sexual orientation, occupational orientation, skin colour etc.

Stereotypes always include a judgement, usually a negative judgement against people, which leads to a generalisation of a whole group of people. There is also a connection between stereotypes and an assumed universal knowledge about a group of people. Prejudices focus on the emotional level.



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Mystery Method: Cashew Stories

Jayashree loves the sweet, but also slightly acidic taste of the fresh cashew apples. In March or April, they turn bright red which means that they are ripe and ready to be harvested. Jayashree lives in Goa, in India, and when it is time to harvest the cashews here, she has to work particularly hard. After harvesting they have to sort and sell the dried cashews to the factories. Now that she is 14-years old, she has to work with her mother and two older sisters in the local cashew factory. Jayashree would like to go to school, but she has to help her family to earn money from the cashews.

During the weekend, Laura wants to celebrate her 15th birthday with her friends. At the supermarket, she is looking for very special party snacks. Some time ago, her parents bought some very delicious nuts and she is now looking for the same nuts. She remembers that her mother said that these were not nuts, but were actually kernels. She has no idea what the difference is. She cannot remember the name but knows that the name starts with the letter “c” ... “caso” or something like that. Laura looks carefully at all the nuts on the shelf and finally, she finds the right pack... “cashews”. That was exactly what she was looking for but they are very expensive – R60 for the packet. Then she sees cashews in a can for R22. She thinks about it and chooses the cheaper one and goes to the cashier to pay.

Aleeke lives in Ubombo, which is a village in the east of South Africa. When his Uncle Pakka comes to visit from Mozambique, he always has exciting stories to tell Aleeke. This time Uncle Pakka told Aleeke that a long time ago many farmers in Mozambique planted cashew trees, because their fruits could be sold. “That would be something for you to do here in South Africa, because the climate and the soil in South Africa are very similar to the south of Mozambique.” said Uncle Pakka. This gave Aleeke an idea... if we could grow cashews, my siblings and I could go to school. Aleeke was very excited and said to his father, “Let’s plant cashew trees! That could be our solution!”

Ernesto’s father knows about his curiosity and interest in fancy foods and has therefore decided to buy this special gift. “These are ‘Nuez de la India’ (‘Indian Nuts’),” explains Ernesto’s father, as he pulls a small can of cashews from his pocket. “This Nuez de la India did not exist here before. They are “commerciado justo” which means “fair traded”. This means that farmers in India, Africa and Mexico also receive much more for their harvest. Ernesto is enthusiastic, because the kernels taste great, so he wants to know more about these interesting shaped kernels or nuts.

Because Laura has decided in the supermarket to go for the cheap and Ernesto’s father for the expensive cashews, Jayashree cannot go to school and Aleeke’s family has more hope for a better future. Is it like that????



Methodical and didactic guide

The mystery method can be used in many different ways. However, given the complexity of global economic links, it should not be used as a starting point into the teaching unit. Use other worksheets such as “What is it?” or “What Are We Snacking On?” to stimulate the curiosity of the learners.

The mystery method can be used in a very complex form with all 24 information cards or in a simpler form with only 16 cards. It is usually more appropriate to use the mystery at the end of the lesson, if the learners are already familiar with some of the facts surrounding the cashew and can now deliberate some of the complexities across the global contexts.

(Postmethod) Methodological and didactic guide

After the implementation of the mystery method, it is important to relate the topics of prejudices and stereotypes described at the beginning of the module to the different stories within the mystery.




Central questions for the teachers to the learners:


- ☛ How do you interpret the stories on the different mystery-cards?
- ☛ At which points in the stories can you find hidden prejudices and stereotypes?
- ☛ What is ‘normal’ for you? What is unusual, not normal, strange for you?
- ☛ From which point of view/ position in society are the stories told?




The class can be divided in groups. Every group gets the mystery-cards or a selection of them. The learners work with the mystery-stories on the cards, however not from the perspective of trade and economy. They read between the lines and are attentive for implicit statements in the stories. The learners examine their own prejudices and stereotypes, try to formulate them and make them visible (e.g.: My prejudice against Mexicans is...).

Blind learners

Blind learners need a short description of the cards which will be used in this practice.

1: Mystery Method – Cards	
 CC	<p>Group 1: The number of the cards is reduced to 19 cards. Important words are marked. There is an alternative task available. Learners assign images to the corresponding cards.</p> <hr/> <p>Group 2: The content and the number of the cards is reduced to 14 cards. There is an alternative task available. Learners assign images to the corresponding cards.</p> <hr/> <p>Group 3: Learners use the Alternative task for Group 3. The content and the number of the cards is reduced to eight cards. Learners assign images to the corresponding cards.</p>
 D/HoH	<p>Hard of hearing learners or deaf learners can also make use of the different levels of difficulty (adaptations cognitive) with less complex wording. Due to their communication restrictions, they might not have the same vocabulary as hearing learners.</p>
 VP	<p>The mystery cards are available on the DVD-ROM and in braille in the material box. A description of the diagrams on the cards would be helpful. The map of South Africa is available in an adapted version.</p>

2: Questions about Questions	
 CC	<p>This worksheet has to be adapted individually to the learners and their knowledge about the contents. Questions can be collected in class before or afterwards.</p>

Cashew Stories	
 CC	<p>Learners use the basic version of the cashew stories.</p>
 D/HoH	<p>The teacher should decide individually which version of the story, basic or complex, is the best to use for the learners.</p>
 VP	<p>The educator should decide individually which version of the story, basic or complex, is the best to use for the learners.</p>

Material

-  Audio Mystery Story
-  Mystery cards
-  Adapted map “South Africa”
-  Mystery Cards
-  Mystery Cards in Braille
-  Adapted map “South Africa”

Literature

- Guimaraes Callado, Sandra Maria: Environmental Sustainability Analysis of Cashew Systems in Northeast Brazil. Göttingen 2009
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- Rehm, Sigmund und Gustav Espig: Die Kulturpflanzen der Tropen und Subtropen. Stuttgart 1984
- Salam, Abdul und K Peter: Cashew – a monograph. New Delhi 2010
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Internet

- Informationen zum weltweiten Cashew-Markt aus indischer Perspektive
<http://worldcashew.com/>
- FAO-Datenbank (FAO = Food and Agricultural Organization of the United Nations)
www.fao.org/faostat/en/#data/QC
- www.forum-fairer-handel.de/fairer-handel/zahlen-fakten/
- www.fairtrade-deutschland.de/was-ist-fairtrade/wirkung-von-fairtrade/zahlen-und-fakten.html
- www.fairtrade.net/impact-research.html
- www.fairtrade.net/fileadmin/user_upload/content/2009/standards/documents/generic-standards/Nuts_SPO_EN.pdf



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