

LePxAxT TxAxP



Preamble by Pforzheim University's Board of Management

Pforzheim University sees itself as a place for changing perspectives. "Führend durch Perspektivenwechsel" (leading by changing perspectives) is its vision. Within our university's strategy, sustainability has become a key driver and carrier of implementation. Progress in sustainability is made possible by a consistent change of perspective; the focus on sustainability in turn necessitates changing perspectives.

One important feature of this strategy is the establishment of HOTSPOT, the House of Transdisciplinary Studies, which promotes interdisciplinary and transdisciplinary teaching. Within HOTSPOT students and lecturers from all faculties collaboratively elaborate major societal topics like integration, sustainability, or digitalization. They interact with stakeholders from all areas of society including e.g. NGOs, local and regional governments, businesses, and artists.

This report provides information on developments and progress in the area of responsible management education and sustainability at Pforzheim University. Pforzheim University's Board of Management is committed to adhering to sustainable principles, especially the Principles for Responsible Management Education (PRME), and to supporting the United Nations Sustainable Development Goals in teaching, research and operations at the university. While fully and wholeheartedly supporting sustainable development and responsible management education, we would also like to make clear that freedom of research and teaching applies without any restrictions.

We would like to thank the committed stakeholders from all areas of our university (students, teaching staff, administration, and management) who have contributed to this report.

Prof. Dr. Ulrich Jautz (Rector)
on behalf of Pforzheim University's extended Board*



Bernd Welter	Prof. Dr. Andrea Wechsler	Prof. Dr. Ulrich Jautz	Prof. Dr.-Ing. Hanno Weber
Kanzler	Prorektorin für strategische Hochschulentwicklung	Rektor	Prorektor für Studium und Lehre



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*) The extended Board of Management consists of Bernd Welter (Chancellor), Prof. Dr. Andrea Wechsler (Vice-Rector for strategic university development), Prof. Dr. Ulrich Jautz (Rector) and Prof. Dr.-Ing. Hanno Weber (Vice-Rector for Studies and Teaching), Prof. Dr. Thomas Cleff (Dean of Business PF), Prof. Johann Stockhammer (Dean of Design PF), Prof. Dr.-Ing. Matthias Weyer (Dean of Engineering PF).

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The cover picture (© Julian Kirschler) of this report shows an art installation of Pforzheim University's "A Fair Land" design project in the city centre of Pforzheim. $I=PxAxT$ (Impact = Population x Affluence x Technology) is the famous core formula of Industrial Ecology by Commoner, Ehrlich and Holdren from 1970.

 Further information



Design student's exhibition at at Bau und Grund Pforzheim 2019 © Vito Pace

Introduction to Pforzheim University

Pforzheim University, with its three faculties - design, engineering and business and law - enjoys a first-class reputation. The faculties combine creativity with business education and technical precision. This combination also makes our university an attractive science and research partner for the regional and national economy. With around 6,200 students, we are one of the largest universities for applied sciences in the state of Baden-Württemberg.

The qualifications and practical experience of the teaching staff on the one hand and intensive cooperation with successful companies on the other lay the foundation for our university's outstanding position in various rankings. We offer 28 Bachelor's and 19 Master's degree programs. Around 480 professors and lecturers ensure that students feel well looked after in Pforzheim right from the start.

Through the close connection between theory and practice, positive synergy effects develop, which result in numerous projects and research approaches for industry and business. Our university cooperates with more than 100 partner universities worldwide, is involved in international networks and attaches great importance to business and corporate ethics.

The vision of our university is "Führend durch Perspektivenwechsel" (leading by changing perspectives). This vision is based on the recognition that the thinking, recognition and action of individuals are always only parts of several possibilities. The ability to change perspectives enables us to consider the diversity of perspectives and thus to act in a way that meets complex challenges. In this way, Pforzheim University makes a positive contribution to the coexistence and advancement of people in a changing world. The vision is further concretized by the following objectives:



#interdisziplinär - We unite disciplines

We follow a distinct interdisciplinary approach where we consider complex future questions innovatively, responsibly and comprehensively and create our own solutions.



#verantwortlich - We share responsibility

We develop viable solutions for complex challenges and consider their impact on the economy and society while accepting responsibility for their impact.



#international - We bridge borders

Pforzheim University is firmly rooted in the region and well connected on a national and international level. We educate our students as global thinkers for the worldwide labor market and invite participation in our programs and research from all over the world.



#persönlich - We foster relationships

Our learning environment values the individuality of our students and guides them towards academic success through excellent supervision.



#praktisch - We shape business practice

We are a driving force in the discourse about future design, creative, economic and technological issues; we are sought-after experts for businesses, politics and society.



#innovativ - We innovate together

Our education provides our students with the professional, methodical and social skills and competences for innovation and creativity while our research contributes novel scientific insights for the changing needs of business and society.


 Full vision and mission statement of our university



Principle 1 – Purpose

We will develop the capabilities of students to be future generators of sustainable value for business and society at large and to work for an inclusive and sustainable global economy.

#responsible in our university's vision emphasizes the outstanding role that social responsibility has in our institution. Our vision defines ethical and intercultural competence and responsible thinking an essential part of education and we encourage our students to critically examine the social and ecological consequences of their own actions. We attach particular importance to transferring our knowledge to society, promote responsible action and teach democratic values.

 Further explanation on our understanding of responsibility within teaching and education at our university

The hub of all our activities in the field of sustainability & PRME is the sustainability board, which was founded in 2016. It bundles competencies and main actors for the topics of sustainability, PRME, and ethics. In addition to many bilateral meetings, the board meets officially once every semester with about twenty members. The board is coordinated by the sustainability and PRME representative appointed by the university's senate, Prof. Dr. Tobias Viere, and the vice rector for strategic university development, Prof. Dr. Andrea Wechsler. Representatives for ethics and gender equality, quality managers, sustainability-oriented researchers, faculty and technical services representatives and further stakeholders collaborate in our sustainability board. Students are important players in the board with representatives of the general students' committee and of initiatives related to sustainability.

 Further information about the sustainability board



Bachelor work Jewellery 2019 © Jule Meinecke



Principle 3 - Method

We will create educational frameworks, materials, processes and environments that enable effective learning experiences for responsible leadership.

At our university, PRME and sustainability related content can be found in courses of all study programmes and in many theses (see Table 1 and Table 2). The spectrum ranges from specific technical courses on sustainable product development to fashion design courses dedicated to upcycling topics.

Table 1: Theses with sustainability focus at business and engineering faculty

	2017	2018
Bachelor	5%	3%
Master	5%	8%

Table 2: Lectures with sustainability and PRME content

	Development since 2011/12	annual change
2011/12	47	
2013/14	54	+ 15 %
2015/16	58	+ 7 %
2017/18	64	+ 10 %

Within our university two successful study programs have been established to enable specializations on sustainability, resource efficiency, and industrial ecology. Both are operated by the Institute for Industrial Ecology.

- 🌐 B.Sc. Business Administration / Resource Efficiency Management
- 🌐 M.Sc. Life Cycle & Sustainability

At Pforzheim University we ensure that sustainability and PRME topics are given a high profile both within and outside the curricula across all study programs. Some important cross-curricular initiatives and offers are presented below.

In the business bachelor's programs all students have to choose between several specialization subjects in the **compulsory elective module "ethics and social responsibility" (EGV)**, such as economic and business ethics or sustainable development. The module aims to expand the perspective of economic value to include ethical and social perspectives and their consequences for corporate social responsibility, which is becoming increasingly important in the context of globalisation. The aim is to impart basic knowledge and skills for dealing with different demands on companies as well as approaches for an extended value and conflict management. To ensure continuous improvement, the university has appointed Prof. Dr. Jürgen Volkert as coordinator of this elective module.

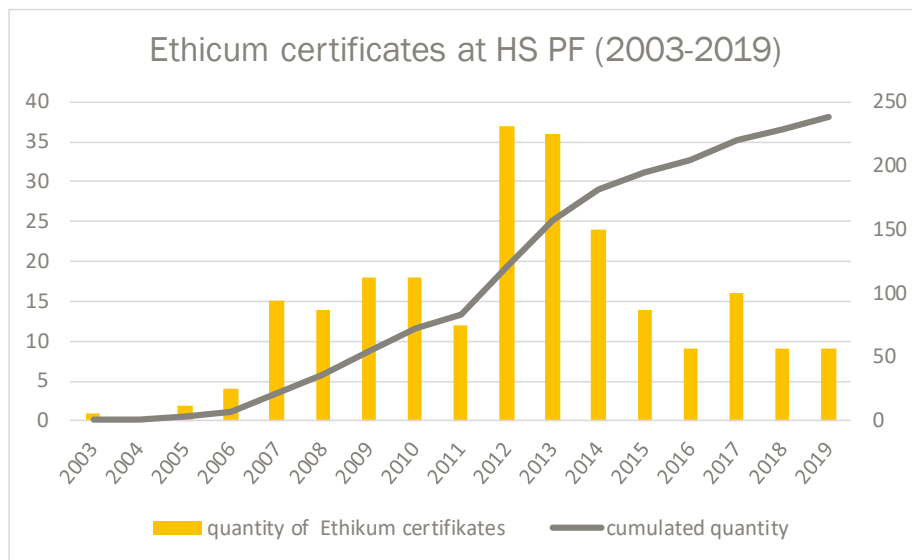
Courses offered within the compulsory elective module "ethics and social responsibility":

- Business ethics: economic and socio-historical perspectives
- Business and corporate ethics
- Environmental Management
- Sustainable Development
- Situation and integration of refugees in Pforzheim
- Corporate Responsibility and Sustainability Management



Participants from local authorities, NGOs, and the university at an integration workshop 2019

Pforzheim University encourages its students to acquire the “**Ethikum**”, which is a certificate for students who have engaged in extra activities and learning efforts in the areas of ethics and sustainability. The certificate is awarded by rtwe, the office for ethics in technology and science at universities of applied sciences within the federal state of Baden-Württemberg. The aim of this additional qualification and certification is to deepen awareness and knowledge on how to make qualified judgements as a contribution to economical, social and ecological sustainable development. All Ethikum activities at Pforzheim University are coordinated by the ethics representative, Prof. Dr. Katharina Kilian-Yasin. With more than 250 awarded Ethikum certificates, Pforzheim students represent the largest group (about 40%) of all Ethikum-holders.



- 🌐 Further information at the rtwe website
- 🌐 Ethikum information on our website

The latest university-wide curricular innovation with high relevance for sustainability is the establishment of **HOTSPOT, the House of Transdisciplinary Studies for practice-oriented teaching and learning**. Within HOTSPOT Pforzheim University bundles the knowledge and competences of its existing faculties and integrates the experience of external partners such as civil society organisations and business enterprises. Lecturers, students and external practitioners and academics from different disciplines and backgrounds work on real-life topics and projects in an inter- and transdisciplinary manner. This way, heterogeneous perspectives enable students and teachers to analyse complex social and economic problems holistically, to develop new approaches to solutions and to test them in real life. Since 2019, Pforzheim University has dedicated a weekly time slot for HOTSPOT courses to enable the participation of students from all faculties and study programs. Credits from HOTSPOT courses can be integrated into each particular study program.



In November 2019, the new Scientific Advisory Board of the House of Transdisciplinary Studies was established, consisting of Dr. phil. Dipl.-Ing. Oliver Parodi (front left) KIT Karlsruhe, founder of the “Quartier Zukunft” real-life laboratory and the Karlsruhe School of Sustainability; Prof. Dr. Birgit Enzmann (second from right) Coburg University of Applied Sciences; Prof. Dr. Kirstin Kohler (not in the picture) Mannheim University of Applied Sciences; Jun. Prof. Dr. habil. Sebastian Lerch (2nd row, second from right), Johannes Gutenberg University Mainz; Prof. Dr. Hanno Weber (far right) HS PF Vice Rector for Studies and Teaching; Prof. Thomas Gerlach (far left) HS PF Head of Strategy Development; Dipl.-Des. Katrin Sonnleitner (front right) HOTSPOT Project Manager © HS PF

- 🌐 Further information



Principle 4 – Research

We will engage in conceptual and empirical research that advances our understanding about the role, dynamics, and impact of corporations in the creation of sustainable social, environmental and economic value.

Research in the PRME and sustainability context takes place at all of our university's three faculties. Many of our researchers are active in projects and publications in these fields. Within the Institute for Industrial Ecology (INEC) and the Center for Consumer Research and Sustainable Consumption (vunk), a number of researchers have joined forces to form powerful research units:

A flagship of sustainability research is the Institute for Industrial Ecology (INEC), founded in 2010 and headed by Prof. Dr. Mario Schmidt. More than 20 researchers at INEC with interdisciplinary backgrounds contribute to the ecological and economical optimization of product life cycles and operational production processes and address many other aspects of industrial ecology and quantitative sustainability assessment. INEC leads and works on a large number of research projects.

- [INEC website](#)
- [Lists and further details concerning INEC projects](#)
- [Profiles and publications of INEC researchers](#)

The Centre for Consumer Research and Sustainable Consumption (vunk) bundles the university's research activities on questions of consumer research and sustainable consumption. Within the competence centre, legal scholars, business economists and economists, scientists from the fields of market and opinion research, technology, psychology, quantitative methods and design sciences are involved and work on electronic commerce, digitisation and consumer issues, consumer research, sustainable consumption, obsolescence, consumer rights and consumer dispute settlement.

- [vunk website](#)

In addition to the research activities of the above mentioned institutions, further projects have contributed to PRME and sustainability related research in 2018 and 2019 and a few of those are introduced in the following:

Under the direction of Prof. Dr. Jörg Woidasky, concepts for a significant reduction of the university's mobility-related greenhouse gas emissions were developed within the framework "mobility concepts for the emission-free campus" of the state of Baden-Württemberg. In this context, Prof. Dr. Thomas Schuster's team also developed the prototype of a ride-sharing app, which supports the formation of carpools for university members.

- [Summary of the project](#)
- [Ride-sharing app](#)

The EU Horizon 2020 research project AVENUE deals with the use of autonomous vehicles in public transport. Under the direction of Prof. Dr. Guy Fournier, the university is involved in this major project and is responsible, among other things, for the sustainability assessment of this mobility turnaround.

- [Project website](#)

Also within an EU Horizon 2020 project the research team of Prof. Dr. Carlo Burghardt aims to develop a recycling supply chain for rare earth magnets in the European Union and to demonstrate the effective reuse of recycled rare earth materials within several industries.

- [Further information on SUSMAGPRO \(Sustainable Recovery, Reprocessing and Reuse of Rare Earth Magnets in a European Circular Economy\)](#)

The research activities related to sustainability and PRME are also reflected in a large number of corresponding scientific publications and the continuous increase of the share of peer-reviewed publications with focus on aspects of sustainability (cp. Table 3).

Table 3: Share of peer-reviews publications with focus on sustainability

2017 (2012-2016)	2018 (2013-2017)	2019 (2014-2018)
24%	29%	40%

[The complete list of all scientific publications and projects of the university in the years 2018 and 2019 can be found here](#)



Principles 5 – Partnership


We will interact with managers of business corporations to extend our knowledge of their challenges in meeting social and environmental responsibilities and to explore jointly effective approaches to meeting these challenges.

The permanent exchange with managers and companies is part of our University of Applied Sciences' DNA. At the university management level, this exchange is institutionalised in the Rector's Club, to which renowned companies in the region belong.

The partnership with companies also finds its way into courses and bachelor and master theses. A large variety of courses in different study programs uses real company cases and challenges as basis for project and case study work, often including topics of business ethics and sustainability. Professors and lecturers use such formats as an excellent opportunity for practice-oriented discussions with managers and engineers, which often result in long-term partnerships.

 Further information

An outstanding project with regard to partnerships is called “100 companies for resource efficiency” and coordinated by the before mentioned Institute for Industrial Ecology. Together with the state government of Baden-Württemberg and all important regional industry associations, the institute honored 100 best practice examples of resource efficiency, energy efficiency and related environmental and climate protection across all sectors.

The best practice examples and general findings from these cases have been published as Schmidt et al (2019): 100 Pioneers in Efficient Resource Management . The project has served as a starting point for various partnerships between HS PF and companies.

 Further information about 100 companies for resource efficiency

Beyond business partnerships we also maintain close partnerships with various local and regional societal stakeholders. This includes for instance integration officers, language teachers and the local employment agency, and has resulted in a number of activities to research but also actively support the integration of refugees. Besides several transdisciplinary seminars and published research results, these activities led to the establishment of Welcome Cafés coordinated by the student initiative initiAID.

Organizing a “sustainability day” has proven to be a very fruitful approach for multi-stakeholder interaction. In 2018, this event brought together representatives from companies,

public authorities and civil society, who discussed the current and future development of our university's sustainability activities. Throughout the day, a wide variety of other events and activities took place on campus, including “value workshops” (see Principles 2 on page 6). A lecture by Prof. Dr. Dr. h.c. mult. Klaus Töpfer, the former head of UNEP and former German Minister for the Environment, was the closing highlight of that day.



Snapshot of a Welcome Café organized by initiAID



Principle 6 – Dialogue

We will facilitate and support dialog and debate among educators, students, business, government, consumers, media, civil society organisations and other interested groups and stakeholders on critical issues related to global social responsibility and sustainability.

Our University is involved at many levels in the dialogue with society and its direct stakeholders. The aforementioned Sustainability Board has been set up to continuously promote the exchange with internal stakeholders on issues of sustainability and social responsibility. In 2018 and 2019, the university conducted stakeholder dialogues on sustainability, in which the members of the Sustainability Board, company representatives, representatives of NGOs and representatives of local and regional government took part. Topics included the university's general sustainability orientation and priority setting (2018) and measures to reduce the mobility-related climate impact (2019).



SDG Roadshow with Baden-Württemberg's Environmental Minister Franz Untersteller © HS PF

Symposia and workshops involving societal stakeholders take place regularly within HOTSPOT, the House of Transdisciplinary Studies. Worthy of special mention here is the winter semester 18/19, in which 18 courses alone were dedicated to the topic of sustainability and which were open to all students of the entire university. In addition, in 2019 a symposium on “Teaching - Transfer – Innovation: The role of the university in society” took place which attracted a lot of attention.

Since 1985 the lecture series “Studium Generale” has regularly attracted a large audience from Pforzheim and the surrounding area, filling the Audimax with several hundred listeners. Particularly noteworthy presentations with a sustainability focus were:

- Prof. Dr. Lucia Reisch (10/2017) Nudging for Good – Should consumers be nudged towards sustainable consumption?
- Prof. Dr. Peter Henricke (11/2017) The great transformation to a green and just economy. Feasible vision or illusion?
- Prof. Dr. Dr. h.c. mult. Klaus Töpfer (06/2018) The Anthropocene: consequences for science, society and politics
- Prof. Dr. Dr. Rafaela Hillerbrand (10/2018) Sustainability: What the energy revolution has to do with the good life
- Prof. Dr. Mario Schmidt (06/2019) Are we running out of raw materials? Resource efficiency and sustainable industrial society

 [Website Studium Generale](#)

A further public event of the university is the lecture series “Ressourceneffizienz und Nachhaltigkeit” (resource efficiency and sustainability). The lectures deal, for example, with the sustainability management of a mineral water producer (Jörg Mannhardt, Ensinger Mineral-Heilquellen GmbH, January 2018), the political dimension of the nuclear waste debate (Hendrik Lambrecht, INEC, Pforzheim University, November 2018), a new code of business ethics (Annette Kleinfeld, Hochschule Konstanz, May 2019) or Germany's energy and climate policy (Julia Verlinden, member of the German parliament, July 2019).

 [Further information on the lecture series](#)

Pforzheim University is an active member of the PRME community. Our PRME and sustainability representative, Prof. Dr. Tobias Viere, is member of the steering committee of the German speaking chapter of PRME (PRME-DACH) and of the German Global Compact Network's steering committee.

 [German Global Compact Network website](#)

In addition, the university is involved in many other forms of sustainability-related dialogue, of which only a few can be mentioned here. For instance, Prof. Dr. Mario Schmidt is sustainability advisory board member of Baden-Württemberg's prime minister, and Prof. Dr. Tobias Brönneke is the chairman of the Baden-Württemberg's consumer commission. It is furthermore noteworthy that many of our students foster a continuous dialogue with society and their own university. Some student initiatives with sustainability and PRME-related issues should be highlighted here.

- sneep is the student network for ethics in economics and practice with the goal of promoting an exchange of ideas on sustainable management in theory and practice through the student discourse of business and corporate ethical issues.
- initiAID enables students to become socially involved in the initiative in Pforzheim or to gain formative experience and assume social responsibility in project assignments. initiAID runs project in a South-African township and supports refugees who live in Pforzheim.

 [Information on all student initiatives](#)

Finally, the work of Clara Schweers will be honoured here as an example of many outstanding student activities and assignments that contribute to our dialogue with society. In April 2019, she was awarded a first prize at the US Water Futures Design Challenge of the A / D / O Water Futures Research Program endowed with 15,000 US\$. The design challenge called on designers to come up with new proposals that will redesign the future of drinking water in the urban environment. More than 2.000 designers from over 30 countries submitted their ideas.



© Clara Schweers "Waters", 1st prize at the US "Water Futures Design Challenge"

Further information

This is the preliminary version of Pforzheim University's 6th Sharing Information on Progress (SIP) Report on the implementation of the Principles for Responsible Management Education PRME. In general, the report covers two academic years from beginning of winter term 2017/18 (Sept. 2017) to end of summer term 2019 (August 2019). Numbers on publications, theses and research projects relate to calendar years instead. The preceding 5th SIP report was integrated into a comprehensive sustainability report in German language. We intend to establish an entirely web-based sustainability reporting in the future. Hence, this 6th report is of a transitional character to fulfil PRME reporting requirements.

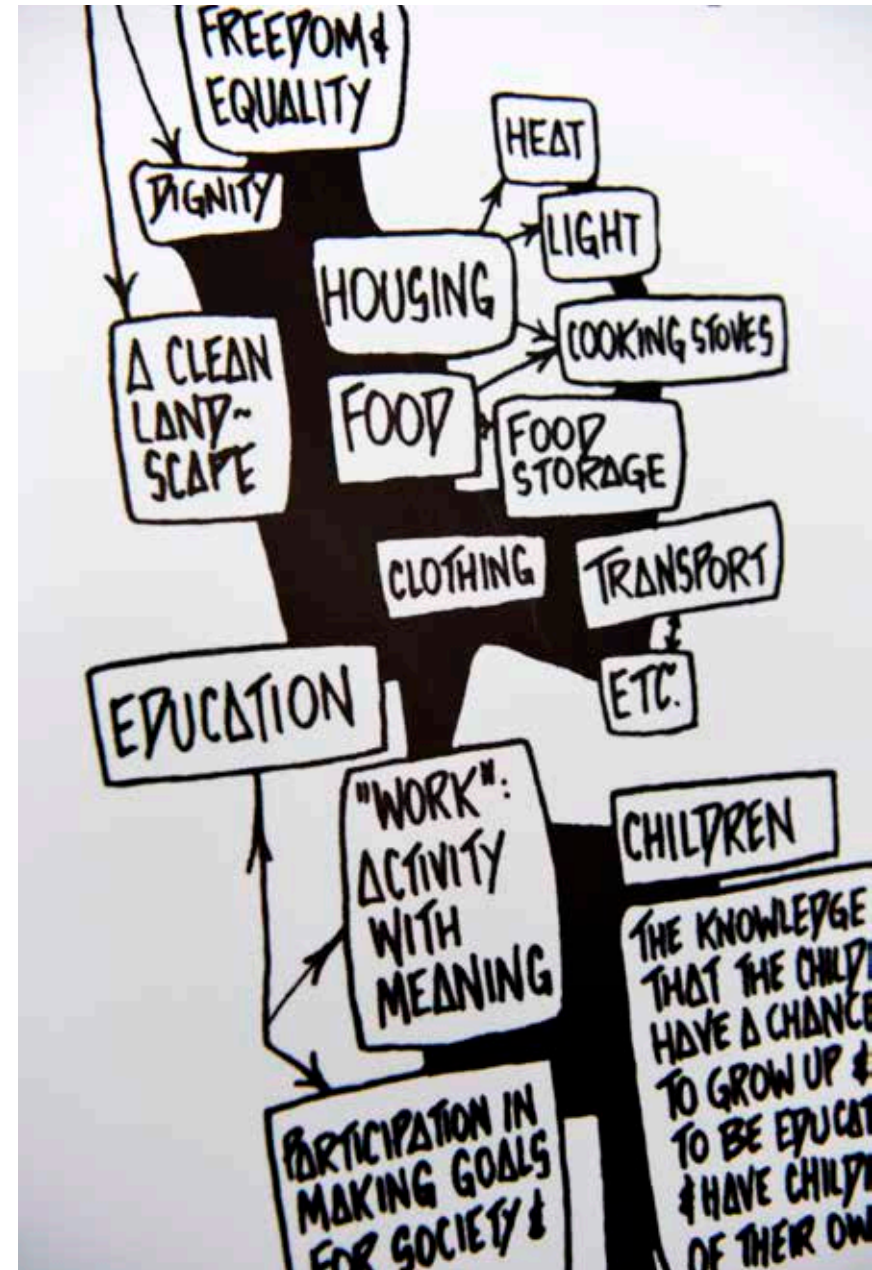
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pictures page 2, 4 © HS PF

right picture: work exhibition 2019: Design and Future Making © HS PF