Challenges in Interpreting and Using National Survey Data On Education

Moving from Summary Tabulation to Practical Action in Afghanistan

Ed Kissam, Shannon Williams, Craig Naumann
Aguirre Division, JBS International

Our Work Analyzing Education Data in Afghanistan

- 2003 National Risk and Vulnerability Assessment (Naumann, Kirby, Kissam)

- 2005 National School Survey (Kissam, Williams, Hernandez, Naumann, Husting)

- Design and Technical Support for 2007 National School Survey (Naumann, Hernandez, Kissam, Williams)

- Fall 2006 School Reporting Data (Naumann, Hazratzai, and Mobin)

- 2004–2006 Accelerated Learning Longitudinal Survey (Kissam, Hernandez, Intili)—80 villages in 80 districts in 10 provinces

- 2006 District Cluster School Baseline Study (Ahmadi, Murray, Kissam, Hernandez)—2 districts in 2 provinces

How Does Our Work Relate to Evaluation Theory and Practice?

- In principle, successive "snapshots" within UNESCO's EFA framework provides a valuable analysis of national education system progress

- In principle, analysis of national school survey data within the EFA framework can provide "diagnostic" insights into system functioning (e.g. repetition rate, "survival rate", gender ratio) and guidance for strategy

- In practice, methodological issues of data collection and data gaps may limit the utility of trend analyses

- In practice, national-level aggregated data is inadequate to support top-quality decision making—adequate analysis is crucial

- Despite rhetoric, decision-making often is not data-driven (e.g. 500 new schools/province, 10 teacher trainers per district)

Crucial Education Policy and Planning Issues for Afghanistan

- System Efficiency— Student dropout and repetition

- Teacher Preparation and Deployment– actual skills and match to teaching assignments, class size

- "School Community" —size, functioning of schools, instructional leadership, community relations

- Local Variations in Service Delivery System and Functioning —Across 35 provinces, 400+ districts, and especially remote rural as compared to rural and urban

- Access to Education –nationally, in diverse local areas, by gender, grade level, for minority-language students

- Student Outcomes –Curriculum-referenced or criterion-referenced? Standardized or local? For national reconstruction? For continuing education?

Constraints on Analyses of Current Education Data in Afghanistan

- Contextual Data Gaps –Missing population data (only modeling): No reliable denominator for GER or NER, problems extremely serious for small-area analysis

- Education Data Gaps –Missing data for key variables due to security problems (e.g. >9% in Kandahar, Hilmand, Uruzgan, Zabul)

- Survey/Census Methodology –Extent of surrogate reporting and imputation procedures unknown but very likely high and known to introduce systematic bias (small, remote school data under-reported or imputed)

- Inadequate Survey Design –e.g. no variables for grade levels taught by teacher, # shifts taught by teacher, students transferring in, students transferring out

- Data Management, Quality Assurance –Problems with unique school identifier linking disparate data sets, non-documentation of data cleaning procedures, out-of-range values in "cleaned" datasets, logical inconsistencies, interpretation of variables, definitional ambiguities.

From Analysis to Action: Examples Which Emerge from our Work

- Student Dropout: Implications for Program Design

- Diverse Types of Schools: Implications for School Management Training

- Diversity in Teacher Preparation: Implications for In-Service Teacher Training

- School Infrastructure: Implications for Education Spending and Community Relations

Student Dropout

- At the start of 2005, about 5 million students were enrolled in Grade 1–12 "regular" schools but 17% were categorized as missing/ not admitted to finals (MNAFE)—850,000 students

- Primary school MNAFE ranges from 8% to 24%

- MNAFE increases from 17% in primary grades to 20% in middle school but subsides to 16% in high school

- Are these dropouts? Probably—but uncertainties: % taking and passing "2nd chance exam", % transferred in or out during term, % "drop-ins", discrepancies in reported initial enrollment for year and sum of passed+failed+MNAFE

- Survey design needs for improved analysis: % of MNAFE not admitted due to missing 40% of term, transferred in or out during term, from other school or same school at start of school year

- Cumulative student attrition (EFA–"survival rate") is extremely difficult to calculate in Afghanistan due to 2002–2003 1st grade enrollment bulge combined with possible subsequent decreases in student enrollment in 1st grade,

Implications of Student Dropout Data

- Because MNAFE is about 5 times the "fail" rate it deserves priority attention if efficiency is a concern

- One implication is the need for enhanced instructional support for "at risk" students

- Another implication is high need for future adult learning opportunities

- Another strategic option would be a dropout recovery campaign and improved alternative learning program options for over-age youth

- Better information is needed on reasons for student dropout to design effective responses. Illness, social conflict, parent dissatisfaction, school distance, students' need to work, moving and difficulty enrolling in new location, marriage are all known to be factors. But they should be quantified.

School Size and Range of Grades Taught

- Two-thirds (67%) of all schools are small to mid-size (<501 students) This implies about 11-12 teachers and a school principal who also teaches. This, in turn has implications for training school management teams and teacher support

- About one in eight of the nation's schools offers Grade 1-12 instruction; 92% of these schools are large "consolidated" schools—making the demands of managing them challenging but possibilities for peer support quite promising.

- In contrast, the 85% of the primary schools which are small to medium-size have urgent management training needs—but focus can be much more basic.

Teacher Educational Attainment

- Policy analysts and officials have argued that all of Afghanistan's teachers are "unprepared". Actually, about 6 in 10 teachers in schools which teach only Grades 1-6 appear to be reasonably qualified—with 9 or more years of education.

- However, teachers in small and very small schools are likely to have much lower educational attainment. Almost half (47%) of the teachers in very small schools have <9 years or non-formal schooling while only 5% in very large schools do.

- An analysis to guide targeting of in-service training (based on educational attainment and years of experience) showed tremendous provincial variations—from 83% of Dai Kundi teachers likely to need training to 2% of Kabul teachers

- Unfortunately, a full analysis of teacher training needs based on macro-level data is not feasible—because the 2005 survey lacks data on teaching assignments. Also self-reported data on educational attainment is probably an unreliable indicator of subject matter mastery.

Implications for Teacher Preparation

- Given the diversity of teachers' experience and educational background and regional variations, a targeted in-service teacher training initiative would be more effective than a one-pass massive national campaign using a "cookie cutter" approach.

- Diversity also suggests a central role for peer-based learning at local schools (as distinguished from a cascade in-service training model). This will also support actual skills deployment.

- Systematic assessment of teachers' competency is a crucial tool for effective in-service —since actual improvements in quality of instruction will only arise when training is customized to teachers' actual learning needs (including those related to their particular grade level and subject assignment)

- Developing teachers' ability to "diagnose" their own skills development needs, coupled with initial training in "learning to learn" skills and encouragement to pursue self-directed learning will be an essential component of effective initiatives to improve quality of instruction.

- School principals will need to provide strong leadership and support to foster a "community of learning" at their schools

School Infrastructure and Education System Development Needs

- Despite anecdotal accounts of school crowding requiring multiple shift operation, about 70% of Afghanistan's schools, operate only 1 shift, 26% 2 shifts and only 4% operate 3 shifts.

- There are, however substantial regional variations. In Kabul, 33% of schools operate 2 shifts and 30% operate 3 shifts.

- Significant need for school construction persists—as evidenced that 28% of the nation's schools are in "temporary" facilities and 4% in rented facilities.

- However, community inputs to the education system are substantial. About one-quarter of the nation's schools are housed in space provided by the local community (12% in mosques, 13% in other community-provided space)

- Nationally the average teacher:student ratio for 1 shift schools is not bad (1:39). However, it varies greatly by province ---from 1:26 to 1:66.

Critical Challenges if Educational Data Are to Become Practically Relevant

- Education planners, strategists, and managers must be convinced to engage in data-driven decision-making to guide action (not just document creation and discussion)

- Once convinced, decision-makers must be helped to understand how analyses of patterns in data can identify problems and suggest strategic solutions, but also limitations of available data

- A central problem is that national-level aggregate data are of limited utility in guiding effective strategic responses which will be most effective if they recognize regional variations and directly address local conditions.

- Macro-level survey data must be accompanied by micro-level research using qualitative methods—to identify inherent flaws in survey/reporting systems and to adequately interpret the significance of patterns observed in macro-level quantitative data.

- If educational data come to be recognized as practically useful, this may translate into improved survey design and more reliable data

International Donors' Responsibilities

- More attention must be invested in making the fundamentally sound EFA analytic framework into a tool for national and regional (not just international) strategy and action.

- Donors have the responsibility to recognize the limitations of "high-level indicators" of educational progress and encourage planners to look more closely at patterns in disaggregated data and what they mean.

- International agencies also have the responsibility to seriously consider the reliability of data collected in developing countries, consequences for making decisions based on imperfect data, and encourage appropriate technical qualification of study/report findings.

- They will need, also, to give more attention to how education translates into economic progress, improvements in civic life, and improvements in individuals' ability to manage their lives, including lifelong learning.

National Education System Responsibilities

- Commit to move from assessment to action

- Give greater attention to actual student educational outcomes and learning opportunities (as distinct from inputs, throughput, and nominal outputs)

- Make a commitment to strategic action focused on educational quality and managing the service delivery system for quality assurance (e.g. rational and reliable resource allocation and targeted efforts to decrease disparities in access and benefits)

- Follow through on a nominal commitment to decentralization by instituting procedures to hold central administration accountable to listen to and be responsive to local communities' needs.

- Carefully initiate, assess, and replicate targeted, strategic demonstration projects to test structured approaches to priority problems (e.g. dropout)

Putting Macro-Level Education System Data in Context

- Javad Ahmadi's presentation (the next in this panel) will discuss findings from our case study research in 2 provinces—how they complement macro-level analyses of education system data, what some practical implications are for moving from analysis to action, and what they imply for future applied education research

- Trish Hernandez's presentation (the final one in this panel) will examine the practical applied research challenges which must be overcome to generate sound analyses of education system functioning and make data useful for decision-making

- The detailed analyses this presentation draws on are available from ekissam@jbsinternational.com